

JPRS 77716

31 March 1981

USSR Report

ENERGY

No. 52



FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available through Bell & Howell, Old Mansfield Road, Wooster, Ohio, 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

Soviet books and journal articles displaying a copyright notice are reproduced and sold by NTIS with permission of the copyright agency of the Soviet Union. Permission for further reproduction must be obtained from copyright owner.

31 March 1981

USSR REPORT

ENERGY

No. 52

CONTENTS

ELECTRIC POWER

- Developments in Electric Power in Uzbek SSR
(A. Khamidov, N. Zakirov; EKONOMIKA I ZHIZN', Dec 80)..... 1
- Rural Electrification in the Kazakh Republic
(A. Maksimova; SEL'SKOYE KHOZYAYSTVO KAZAKHSTANA, Dec 80)..... 7

ENERGY CONSERVATION

- USSR Council of Ministers Adopts Energy Conservation Decree
(SOTSIALISTICHESKAYA INDUSTRIYA, 4 Jan 81)..... 11
- General Director Discusses Donbassenergo Energy Conservation
Measures
(Viktor Andreyevich Zhmurko; EKONOMICHESKAYA GAZETA, Jan 81).... 13
- Concentration, Unification of Energy Conservation Studies
Suggested
(V. Markaryan; KOMMUNIST, 16 Jan 81)..... 17
- Reduced Petroleum Use, Diversified Production Called For
(Bruno Dethomas; LE MONDE DIPLOMATIQUE, Mar 81)..... 19
- Violations of Energy Conservation Measures Cited
(M. Luk'yanov; RABOCHAYA GAZETA, 31 Jan 81)..... 23
- Lack of Fuel, Inefficiency Deprive Baku Residents of Heat
(M. Eyvazova, V. Abashin; VYSHEKA, 15 Feb 81)..... 26

FUELS

- Party Organs Push Ekibastuz Fuel-and-Power Complex Buildup
(B. Isayev; PARTIYNAYA ZHIZN', Jan 81)..... 33

Ways of Improving Use of Natural Gas Reported (S. Narembayev; NARODNOYE KHOZYAYSTVO KAZAKHISTANA, 4 Nov 80)....	39
Urengoy-Moscow Gas Pipeline Report (L. Podlasov, S. Gur'yashov; SOTSIALISTICHESKAYA INDUSTRIYA, 20 Jan 81).....	43
Construction Begun of Urengoy-Petrovsk Gas Pipeline (B. L'vov; PRAVDA, 17 Nov 80).....	47
Report on Construction of Urengoy-Moscow Gas Pipeline (SOTSIALISTICHESKAYA INDUSTRIYA, 6 Jan 81).....	49
Progress Report on Urengoy-Moscow Gas Pipeline (SOTSIALISTICHESKAYA INDUSTRIYA, 13 Jan 81).....	53
Use of Additives Increases Oil Well Output (M. Abasov; VYSHKA, 21 Feb 81).....	55
Safety Rules Listed for Shatlyk Gas Main (TURKMENSKAYA ISKRA, 4 Feb 81).....	59
Conversion of Trucks to Natural Gas Is Urged (V. Vukovich; IZVESTIYA, 9 Dec 80).....	61
New Publications for Petroleum, Gas Industry Workers Listed (KNIZHNOYE OBOZRENIYE, 5 Sep 80).....	64

ELECTRIC POWER

DEVELOPMENTS IN ELECTRIC POWER IN UZBEK SSR

Tashkent EKONOMIKA I ZHIZN' in Russian No 12, Dec 80 pp 6-10

/Article by A. Khamidov, minister of Power and Electrification of the Uzbek SSR, and N. Zakirov, chief of the department for automatic control systems of the Ministry of Power and Electrification: "Continued Rapid Development in the Future"

/Text/ When people talk about structural shifts in the national economy, they usually start with electric power. And this is correct, because the electric power base directly influences the development of a nation's economy. Electricity makes it possible to speed up and improve technological processes, to reduce production outlays, and to mechanize and automate production. All of this is accompanied by a rise in labor productivity. This is why beginning with the GOELRO plan, all Soviet five-year plans have emphasized the priority development of the electric power base, and particularly the growth of electric power output, which must provide for the development of all other sectors of the national economy. We recall the words of V. I. Lenin that "electrification within the Soviet structure creates the final victory for the foundations of communism in our nation."

Today the Soviet people are justifiably proud of the achievements of Soviet power engineering. Over the past 15 years alone the production of electric power in the Soviet Union has increased nearly 3-fold. One hundred sixty five million kilowatts of new power capacities have been put into operation. During this period the power-worker ratio in industry has increased 1.9-fold and in agriculture 8-fold.

An even greater leap forward in the development of this sector of the national economy has occurred in the republics of Central Asia, once a backward district of czarist Russia. While in the years 1960 - 1978, for example, the output of electric power throughout the USSR increased 3.9-fold, in the Uzbek SSR it increased 6-fold. From primitive electric power stations to giants of modern power engineering - such are the mature features of the socialist development of the Uzbek SSR.

But no matter how great the successes, the problems of developing electric power - the most important sector of our economy - will never lose

their urgency. At the June (1980) meeting of power builders and workers from the power and power machine building enterprises and institutes for questions dealing with the development of power engineering CPSU Central Committee Secretary A. P. Kirilenko noted: "the Party realizes that the further economic and social progress of the Soviet Union and raising the wellbeing of the Soviet people can only be provided by ensuring the rapid growth of the power potential of the national economy."

At present power engineering is a complicated, dynamic system, within which the number and capacity of generating sources, electric power transmission lines, substations and consumers are constantly increasing. What is more the design and technological characteristics of its elements, as well as the economic indicators, are constantly changing. In addition, the scattered nature of sources and consumers of power throughout an extensive area requires the creation of powerful electric connections and reliable control channels.

All of this brings the matter of improving the structure of managing the production of electricity to the foreground. In view of the special nature of electric power production, which is connected by a unified technological process - production, distribution and consumption of power, there is an essential need for centralized control. In addition, an important feature of power engineering is the relative rapidity of the flow of transient processes connected with shortings and switching on and off of equipment and irregularities. These processes take place within a second and even tenths of seconds. All of this requires the mandatory use of special automatic devices, but the selection and tuning of the majority of these devices is impossible without considering the operation of the entire system.

As a consequence, the present level of power engineering - the constantly increasing concentration of capacities of electric power stations and substations and the development of the distribution networks also complicate the control processes. This is taking place at a time when there is a steady increase in the amounts of scientific-technical information, which makes it necessary to use computers both for processing information and for searching for better solutions.

This is why the creation and development of systems to automatically control power systems are one of the basic ways for raising the efficiency of their operation. For this reason the development and adoption of basic OASU /sectoral automatic control system/ elements, the "Energiya", has been underway for the past 20 years.

In 1971 the Uzbek SSR Ministry of Power and Electrification was given the task of creating a system to automatically control the production of electricity. The purpose of its creation was to ensure the best possible use of material and labor resources, to improve technical-economic planning, and to raise the reliability and quality of the power supply system for the Uzbek SSR's national economy. These questions must be solved on the basis of controlling the dispatch (technological) and production-economic activity of the power system with the use of economic-mathematical methods, computers, office mechanization

and means of communications and also the creation of an automated system for processing data that is based on a unified systems mathematical support.

In 1974 the diligent labor of the planners and designers paid off. The first section of the ASU /automated control system/ for the Uzbek power system was put into operation.

By the way, it was the first ASU system among the power systems of the USSR. The initial unit of the first unit included 27 tasks, which comprised the automated dispatch control system (ASDU), and 16 tasks that related to the sphere of organizational-economic control (ASOU). At that time the Uzbek SSR Ministry of Power and Electrification had three computers and 93 programs were in use. The economic effectiveness of the first ASU section was 198,000 rubles per year.

In the Tenth Five-Year Plan special attention was given to expanding the technical base of the ASU by creating a powerful computer center with branched peripheral and terminal equipment.

The practice of using computer technology both in the USSR and abroad demonstrates that an ASU, which is created on the level of technological processes (in power engineering the ASDU) when there is extensive use of economic-mathematical methods for processing technical-economic information, substantially raises the quality of control. This is why the basic reason for creating a power system ASU is to provide an uninterrupted supply of power to consumers while optimizing the production and distribution of electric power that meets a state standard of quality.

The ASDU of the Uzbek power system now performs the functions of technological control and the related functions of planning the modes of operation, and controlling and monitoring the production process and the distribution of power using the four computers that comprise the system.

The ASDU functions on the base of two M-6000 machines. They operate with an automatic redundancy in a continuous mode and provide for the receipt, processing and display of remote and alpha-numeric information. All of the consoles for the dispatchers and operators are equipped with displays, which display information concerning deviations of the mode parameters from previously assigned (permissible) limits and concerning the current situation and changes of circuits in the system. The display units can obtain the values of telemetered parameters for any time within a 24-hour period and various instructions and reference information.

The basic task of the ASDU, which is solved using standard third-generation computers, is to compile the operational work plan for the power system for the next 24-hour period. It includes the following sections: forecasting the load on the power system by region, determining the composition of working equipment based on orders of enterprises, the optimal distribution of the load between the electric

power stations, ensuring the normal circuit of electric power distribution, and checking its stability and reliability should there be accidents of equipment malfunctions at the power stations or on the electric power transmission lines.

This operational plan is available to the dispatch service and is a directive document for all operational services. However, the probability nature of the load amount of the power system predetermines the need to adjust the operational plan within the 24-hour period in accordance with a change in the situation. For this purpose a dialog system, the "Dialog", which was developed by the Uzbek SSR Ministry of Power and Electrification on the base of a display station with terminals, is used.

What is qualitatively new in the ASU of the Uzbek power system is the provision of a dialog mode for solving problems of the operational dispatch control and the creation of an information-reference system that permits exchange of information between the YeS-1033 and a small M-6000.

In the current five-year plan the ASU of the Uzbek SSR Ministry of Power and Electrification also was further developed by the implementation of the second section comprised of 205 tasks relating to 11 subsystems. Its annual economic savings amounts to 885,000 rubles. And all outlays for creating the system will be recovered within two and a half years.

At present the successful functioning of the ASU depends largely upon the quality of the formulation and preliminary processing of information in the lower structural subdivisions. For this purpose the first sections of the ASU of the Tashkent electric power network enterprises the Tashkent and Syrdar'ya state regional power stations were put into operation. Twelve points for the initial preparation of data (PPD) were also created for this purpose.

This problem takes on special importance in light of the decree of the CPSU Central Committee and the USSR Council of Ministers "Concerning the improvement of planning and strengthening the influence of the economic mechanism upon raising the efficiency of production and the quality of work". In connection with this work is underway within the Uzbek power system to develop a system to automate planning tasks.

I especially want to discuss the problems of the subsystem "technical-economic planning", which includes operational planning (for the month with a breakdown by ten-day periods, week and day), current planning (for the year with a breakdown by quarter and month), and long-term planning (for the five-year plan with a breakdown by year).

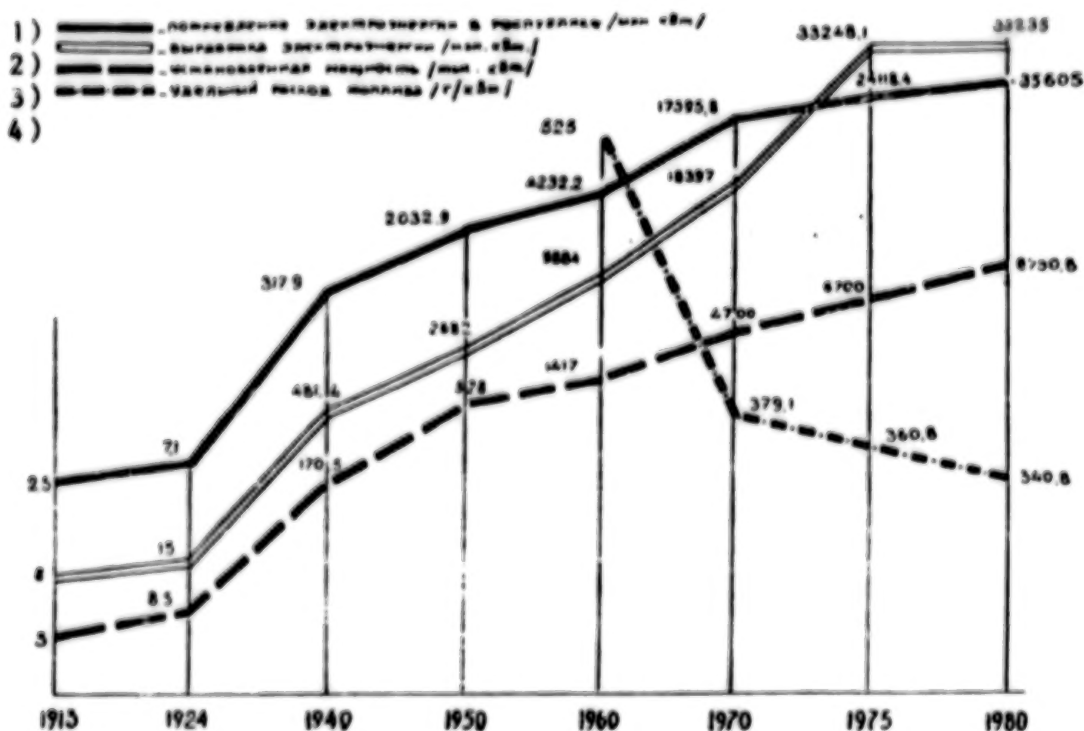
Here are some of the tasks that can be solved within this system: operational planning of the mode of operation of the power system, the long-term planning of scheduled repairs for the electrical equipment of the substations and high-voltage lines, estimating the long-term modes of operation of the hydroelectric power stations of the Chirchik

River basin, planning capital construction: capital investments and construction and installation work, ensuring the implementation of capacities, and current planning of electric power output, its overcurrents along controlled system lines and relative expenditures of fuel.

In contrast to the industrial automated control systems the ASU of a power system requires special accuracy in the system for the collection, transmission and processing of information. The above mentioned decree of the CPSU Central Committee and the USSR Council of Ministers creates the prerequisites for the formation of flexible organizational-information structures in production. No computer in and of itself can be an effective management tool, if we do not make radical changes in the technology for forming information flows and for making decisions.

Modern automated control systems in power engineering call for the assembly and processing of information at various levels. Therefore, when constructing such ASU's the system for search, registration, collection and transmission of primary information is of great importance. The effectiveness of the functioning of the entire system depends largely upon its successful operation.

Table: Steps in Power Engineering of the Uzbek SSR



Key: 1) use of electric power in the Uzbek SSR (millions of kilowatts), 2) output of electric power (in millions of kilowatts), 3) rated capacity (thousands of kilowatts), and 4) relative expenditure of fuel (gigacalories/ kilowatts).

An integrated system is characterized by the fact that each task begins with the processing of primary documents in place; in intermediate links information is aggregated using micro-computers. The use of remote control is also being further developed. For example, over the next two years it is proposed to increase the amount of telemetering 3-fold, and the use of remote signaling 2.5-fold.

In the coming five-year plan the development of systems to automatically control the technological processes of thermal electric power stations (the Novo-Angrenskaya, Tashkent, Syrdar'ya and Talimardzhanskaya state regional electric power stations) and electric network enterprises (Tashkent, Fergana and Samarkand) will be further developed. And work will get underway to develop systems to automatically control the technological processes of substations.

In the near future it is proposed to update the computers of the computer center of the Uzbek SSR Ministry of Power and Electrification in view of the growing needs to improve the speed and day-to-day operational aspects of the tasks to be solved. New equipment will make it possible to switch to powerful operational systems which permit a sharp rise in the level of automating programming and the effectiveness of the use of computers. The next stage in the development of programming for the ASDU is the switch of all tasks to a unified information base, a large part of which is automatically updated according to telemetry data and remote signaling. This will make it possible in the near future to analyze the work of the power system with the needed estimates both while it is operating and when equipment is shut down for repair, during switching operations and even possible emergency situations.

The maximum impact of the ASU can be realized only when it begins functioning as a logically completed system. Of course, this will require changes in the form of information flows - the switch from "paper" to man-machine dialog systems, the search for other functional structures of the management apparatus. The effective use of information resources in this regard is one of the most important reserves.

As we can see, the tasks faced by Uzbek power engineers are complex and multifaceted. We have discussed only one of the more important aspects of this present-day matter. Unless this matter is thoroughly solved it is not possible to have a further qualitative growth in the development of this sector of the national economy.

On this the sixtieth anniversary of the GOELRO plan, on the eve of the 26th Party Congress and the 20th Congress of the Uzbek Communist Party, I want to emphasize that Uzbek power engineers are sparing no effort and labor to solve the problems that the Party has put before them. In the future they will continue to develop electric power as quickly as possible.

ELECTRIC POWER

RURAL ELECTRIFICATION IN THE KAZAKH REPUBLIC

Alma-Ata SEL'SKOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 12, Dec 80 pp 28-29

[Article by A. Maksimova, Press Center correspondent of the Kazakh SSR Ministry of Power and Electrification: "Stable Electric Power Supply for the Village"]

[Text] It is difficult today to name a branch of agricultural production where electric power would not be used. About 800,000 electric motors, 160,000 sets of electric heating equipment and tens of thousands of lighting and heating installations are in operation on the republic's kolkhozes and sovkhoses.

The industrial method for production of agricultural product, incorporation of flow-line, uninterrupted manufacturing processes, overall mechanization and automation sharply increase productivity, and, most importantly, free man from physically difficult labor. The main task of the day is a reliable, uninterrupted supply of electric power to all links for agricultural production.

What is being done in this direction by workers of the Kazakh SSR Ministry of Power and Electrification, what are the plans for the Eleventh Five-Year Plan? Realizing the resolutions of the XXV Congress of the CPSU, the decree of the CPSU Central Committee and the USSR Council of Ministers "On Measures for the Further Development of Electrification of Agriculture" and the decree of the Central Committee of the Communist Party of Kazakhstan and the Kazakh SSR Council of Ministers concerning its realization, power workers assimilated more than R 400 million on construction of rural electric transmission lines during the Tenth Five-Year Plan and built more than 80,000 kilometers of electric transmission lines of all voltages. At the start of 1980, the extent to which all rayon centers, kolkhozes and sovkhoses in the republic were provided with centralized electric power supplied from state power networks was 99.5 percent. The number of farms consuming up to 10 million kilowatt-hours and more of electricity annually is growing. Among these are the sovkhoses "Pritobol'skiy" and "Sovkhoz imeni Michurin," Kustanayskaya Oblast, "Rzhevskiy," "Krasnoyarskiy" and "Oktyabr'," Tselinogradskaya Oblast, "Kaskelenskiy," Alma-Atinskaya Oblast and others.

From day to day the heavy physical labor in agriculture is being placed more and more on the shoulders of equipment.

On the lands of the "Kaskelenskiy" sovkhos, the length of electric transmission lines is about 300 kilometers, and there are 62 transformer substations. There are about 2,000 electric motors, 60 electric heating units and 80 industrial cooling units on the sovkhos's balance sheet. A power service was set up on the sovkhos, headed by

the main power worker. About 200 power specialists are distributed throughout the sovkhos's power network use sectors and electric installations. Here there are two labor intensive sectors in livestock breeding and sectors for the repair and servicing of cooling equipment. There is a shop for the repair and installation of manufacturing equipment, the personnel for which also services a combined feed plant producing 140 tons of mixed feed a day.

Last year more than 13 million kilowatt-hours of electric power were consumed in production of the product. More than 25,000 pigs, 22,000 sheep and about 3,000 head of cattle are maintained on the farm. Sugar beets, grain and feed crops and perennial grasses are grown over an area of more than 70,000 hectares. A part of the land is under irrigation.

The sovkhos sells more than 3,000 tons of meat, about 4,000 tons of milk and 100 tons of wool to the state annually, and realizes total production of more than R 10 million. Of course, without electrification of all links of production it would be impossible to achieve such successes.

There should be sound and reliable electric power supply to serve such a large farm. Now shut-offs and idle time are expensive. In 1978 there were 24 shut-offs on the farm, the total duration of which was 205 hours. The actual loss was R 250,000.

Preparing for the XXVI Congress of the CPSU, the Main Administration for Electrification of Agriculture of the Kazakh SSR Ministry of Power and Electrification, together with the Ministry of Agriculture and other departments developed an overall plan to improve reliability of electric power supply to agricultural production sites and its individual manufacturing process which relate to Category I consumers by degree of reliability. It was planned to improve the operation servicing of agricultural electric networks and to build a number of service-production bases and service-repair stations. Fourteen thousand kilometers of overhead electric transmission lines are to be repaired. It was planned to assimilate R 617 million in capital investments and to start up more than 90,000 kilometers of electric transmission lines of all voltages and regional transformer substations rated at 4.2 million kilowatts during the Eleventh Five-Year Plan, to conclude hook-up of all divisions and farms of the republic's sovkhoses and kolkhoses to state electric systems by 1983 and to supply electric power to production sites in pasturages on the range.

In recent year, the volume of work in construction of electric transmission lines and transformer substations has been constantly increasing. The plan that the builders have is particularly intensive in this, the concluding year of the five-year plan, both in the volume of construction and installation operations and in the start-up of power facilities. In turn, the responsible and intensive quotas for construction of electric transmission lines and for providing a growth in labor productivity constantly compel the personnel of the building trusts to search for reserves to increase the production efficiency and for ways to reduce building times. Resolving these problems will promote the technical development of the production base for the trusts, the search for new and progressive methods of labor organization and the mechanization for performing manufacturing operations. Otherwise it is impossible to realize the practical implementation of these planned measures.

The personnel of the "Kazelektroset'stroy" trust is building electric transmission lines of all voltages in six oblasts of the republic (Alma-Atinskaya, Taldy-Kurganskaya, Semipalatinskaya, Vostochno-Kazakhstanskaya, Karagandinskaya and Dzhezkazganskaya).

During just the last two five-year plans, the volume of work performed by the trust's personnel has increased by 5 times, electric transmission lines placed in service by more than a factor of 3 and labor productivity has grown 3 1/2 times.

Mikhail Aleksandrovich Otradnykh, holder of the Order of Lenin and the Order of the Red Banner of Labor has headed the brigade in the trust's PMK [mobile mechanized column] for 26 years. This brigade was one of the first to master the N.A. Zlobin method. The specialized units construct electric transmission lines using a flow-line method. All members of the brigade have mastered two or three related professions and the interchangeability eliminates idle time. During the Tenth Five-Year Plan, M. Otradnykh's brigade took on the increased commitment of building 60 kilometers of electric transmission lines above the plan. Their plans were realized. In May of this year the collective reported the fulfillment of their five-year quota. Four kilometers of overhead lines were built with conserved materials. On the brigade's labor calendar it is now November 1981.

Kishen Dosumzhanovich Musin has headed an electric line crew in Pokrovskoye SMO [construction and installation administration], which is also working for November 1981, for 28 years. The flag has been raised more than once in honor of the leading brigades of Genadiy Yevgen'yevich Bakharov and Vladimir Konstantinovich Bugayev. This year the trust's Pokrovskoye SMO is carrying out ahead of time construction of the VL-110-35 Kv, for supplying electricity for pumping installations at the Karadalinskiy tract of irrigated lands.

Much work to supply electricity to the Chingil'dinskiy irrigated tract and to improve reliability of the electric power supply to our republic's capital have been carried out and other electric transmission lines have been built.

The scientific organization of labor, extensive mechanization of production processes and highly qualified cadres--this is what has insured the high technical-economic indicators for the trust and brought it into the ranks of the foremost, not only in the republic, but within the Union. For high indicators in their work, the front-running personnel of the "Kazelektroset'stroy" trust, fulfilling important tasks toward the electrification of agriculture, was awarded the USSR Ministry of Power and Electrification's challenge Red Banner.

Joining sovkhozes and kolkhozes to centralized electric power sources permits electric power to be used broadly in agricultural production, permits thousands of small and uneconomical diesel electric plants to be put in reserve and disassembled, permits personnel which have been freed to be reassigned to other spheres of agricultural production and permits costs for electric power production to be reduced by a factor of 3-4.

Consumption increases in the village from year to year, and the use of electric power in fields, on farms and in everyday life is expanding. During this five-year plan the consumption of electric power from state power systems increased by a factor of 1.4 reaching 6.5 billion kilowatt-hours. It is planned that by the end of 1985 an increase in power available per productive unit of labor in agriculture production will increase by a factor of 1.6-1.8 and consumption of electric power for the cultural and domestic needs of a single village resident will increase by a factor of 1.8-2.

This year occupies a particular place in the history of our country. It is the final year of the Tenth Five-Year Plan, the year of the 110th birthday of V. I. Lenin. Sixty years ago Lenin's ideas on electrification were embodied in the mighty, effective GOELRO [State Commission on Electrification of Russia] plan, having armed the Soviet people with an actual program for creating the material-technical basis for a socialist society. These ideas illuminate our path today as well, the path of creation and scientific and technical progress.

COPYRIGHT: "Sel'skoye khozyaystvo Kazakhstana"--"Qazaqstan auyly sharuashylyghy", 1980

9194

CSO: 1822

ENERGY CONSERVATION

USSR COUNCIL OF MINISTERS ADOPTS ENERGY CONSERVATION DECREE

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 4 Jan 81 p 1

[Article by TASS: "Intensify Fuel Conservation"]

[Text] The USSR Council of Ministers has adopted a decree on measures to intensify conservation of fuel and energy resources in 1981.

The USSR Council of Ministers has acknowledged that the most stringent conservation in consumption of fuel, electricity and heat, implemented according to the decisions of the November (1979) and October (1980) Plenums of the CPSU Central Committee and the speeches of the General Secretary of the CPSU Central Committee, Chairman of the Presidium of the USSR Supreme Soviet L. I. Brezhnev at these Plenums to be the most important state task.

It is suggested that the ministries and departments of the USSR, councils of ministers of the union and autonomous republics, ispolkoms of the kray, oblast soviets of people's Deputies, and heads of the enterprises and organizations:

on a monthly schedule, bring the standards of fuel, electricity and heat consumption that are active at the enterprises and organizations, into agreement with the standards and assignments for their average decrease stipulated in the state plan;

broaden the use of technological processes that require lower expenditures of fuel and energy resources per unit of product, and set strict control over the observance of the optimal technological regimes;

work to curtail the losses of all types of energy and fuel, and in particular, to reduce the losses of energy in the electrical circuits, improve the amount of work and curtail the idling of engines and transformers, eliminate heat leakages and improve the thermal insulation of industrial furnaces and other energy-consuming units, as well as pipelines on which steam and hot water are fed;

guarantee complete discharge of petroleum products from the railroad tank cars, and take measures to eliminate losses of light petroleum products and fuels and lubricants during transporting, storage and filling, as well as to reduce their consumption by the maximum decrease in empty runs of cars and other transportation vehicles.

Assignments have been set for 1981 to conserve fuel, electricity and heat in industry, construction, transportation, residential-communal services and agriculture, as well as to use secondary fuel resources.

It has been suggested that the USSR State Committee for Inventions and Discoveries and the USSR ministries and departments examine the unrealized efficiency experts' suggestions and inventions that are aimed at an efficient and economical use of fuel, electricity and heat, and to take measures for their rapid introduction into the national economy.

In order to establish effective control over the efficient use and conservation of fuel and energy resources, the USSR ministries and departments, and councils of ministers of the union republics have been entrusted with strengthening the appropriate subdivisions within the central apparatus of the ministries and departments. The leaders of the associations, enterprises and organizations have been entrusted with creating permanent working groups with the participation of the people's inspectors and members of the soviets of scientific and technical societies.

The decree stipulates measures to intensify stimulation of efficient consumption of fuel and energy resources. It introduces prizes for workers who overfulfill the assignments to use secondary fuel and energy resources. Fifty percent of the cost of the conserved energy resources are used for this purpose.

9035

CSO; 1822

ENERGY CONSERVATION

GENERAL DIRECTOR DISCUSSES DONBASSENERGO ENERGY CONSERVATION MEASURES

Moscow EKONOMICHESKAYA GAZETA in Russian No 4, Jan 81 p 9

[Article by Viktor Andreyevich Zmurko, general director of Donbassenergo: "Conservation of Electricity Is a Common Concern"]

[Text] The production association "Donbassenergo" is one of the largest in the Soviet Union. Its networks supply electricity to a myriad of enterprises. Attention is constantly centered on conservation of energy resources in industry, agriculture and daily life here. However, for a more efficient use of energy it is necessary to solve a number of problems. These are discussed by the general director of the association, Viktor Andreyevich Zmurko.

In 1957 he graduated from Khar'kov Polytechnical Institute. He worked in the "Donbassenergo" system and in 1975 was appointed chief engineer of this association. He then became general director.

Recently all the Soviet people marked the 60th anniversary of Lenin's GOELRO [State Commission for the Electrification of Russia] plan. During these years a true revolution took place in the electrification of the country. Production of electricity rose from several billion kilowatt-hours to a giant figure, over a trillion kilowatt-hours. In the 11th Five-Year Plan, as stipulated in the draft of the CPSU Central Committee for the 26th Party Congress, production of electricity will reach 1.550-1.600 trillion kilowatt-hours. The growth is truly tremendous. But the questions of conserving electricity become more acute at the same time.

At All Stages

Conservation must be implemented at all stages of power production and energy use. The primary role in energy conservation during its generation and transporting naturally belongs to the power system and the departmental power plants that are working in contact with it. The "Donbassenergo" collective has a distinct system of measures aimed at conserving energy resources. By improving the structure of power engeration, perfecting the production processes and updating the equipment at the power plants, during the 11 months of 1980 as compared to the corresponding period of the previous year, the consumption of coal, mazut and gas per generated kilowatt-hour was reduced by 1.2 grams of comparison fuel. This conserved

21,300 tons of comparison fuel. During this same period, consumption of electricity for in-house needs dropped by 79 million kilowatt-hours, or 0.2%. This saved 23,300 tons of comparison fuel.

The measures aimed at diminishing the losses of energy during transporting are being actively implemented by the electrical network enterprises. Their introduction diminished energy consumption for transporting by 45 million kilowatt-hours, or 0.12%. This saved 16,300 tons of comparison fuel.

The struggle for conservation has recently become more active and purposeful at the enterprises who are direct consumers. Many collectives are taking organizational and technical measures aimed at conserving energy resources. In 1979 alone, as a result of their introduction, the Donbass consumers saved over 1 billion kilowatt-hours of power for the national economy.

Organizational-mass work at the enterprises, kolkhozes, sovkhozes and among the population has improved. It is aimed at an economical consumption of electricity. The collectives of the Zhdanov plant "Azovstal'," the Gorlov production association "Stirol," the "Sotsialisticheskiy Donbass" mine, and the North Donetsk production association "Azot" are exemplary.

Permanent commissions have been set up here to promote the economical and efficient consumption of energy resources. At their meetings they examine all questions associated with economy, including formulation of plans of organizational and technical measures. The public organizations make a great contribution to the energy resource conservation. Questions of conservation are covered in the local press and on the local radio. There is enough graphic propaganda, placards, and panels that propagandize economy and prudence. Socialist competition is widespread. The enterprises participate in the all-union competitions for the best suggestion to save energy resources. Moral and material incentive for conservation and economy are used. The initiative of the production engineers is encouraged. The efficiency experts and inventors participate extensively in conservation of energy resources.

Incorrect Approach to Standardization

As already stated, the chief role in conservation in the use of electricity belongs to the consumers. It must begin with accurate planning and standardization of electricity consumption. The specific standards of energy resource consumption must be worked out at the enterprises and approved in the appropriate order. Sometimes infractions are permitted however. The specific standards are set by the higher organizations, and generally without consideration for the local conditions of production and conservation from introducing the organizational-technical measures.

There are frequent cases where the ministry issues weighted average branch standards to the enterprise (for example, to the Krasnoluchskiy Plant of Construction Designs of the USSR Ministry of Construction of Heavy Industry Enterprises). These standards are abstract for the enterprise. They constrain initiative for standardization and generate inactivity of the power services. They do not stimulate conservation since they are often exaggerated without substantiation.

It also happens that work to standardize electricity consumption becomes simple filling of accounting forms that contain distorted information since the planned specific standards are corrected after the fiscal period. How can one speak

of the efficiency of the standardization system when the enterprise, with the consent of its higher organization, replaces the planned specific standard with the actual at the end of the fiscal period. The result is neither saving nor overconsumption.

Standardization of energy consumption is closely linked to the problem of computing it. If it is lacking or inadequate for the actual situation, the very principle of standardization loses meaning. An example is the case where only general accounting of the electricity consumption is set up at an enterprise. Specific standards are only set for several types of products. It is natural that in this case the system of standardization becomes a mock-up and an ineffective model.

Or take another example. The enterprise that only has general accounting, fulfills the set specific standard of electricity consumption. But here are two units that manufacture the same product, and even in the same quantity. For some reason, one unit consumes less electricity to fabricate the product. If an electric meter is installed on each unit, it will become clear just how much less. Naturally it is necessary to find out the reason and to introduce the leading technology in the second unit. This is the correct approach to the problem of economy.

The brigade that manufactures the same quantity of products as its neighbor, and even of the same quality, will know that the electricity conservation indicators of the neighbor are better. This is competition for conservation of electricity.

We know that it is becoming widespread. Cities, rayons, enterprises, shops and brigades are competing. Socialist commitments are being adopted. But what a pity to admit that these good initiatives are not always effective because of a lack of basic accounting for the calculation of electricity consumption! The commitments are adopted, but the result is unknown because there is no accounting. Yet technical progress provides the latest equipment, technology and instruments for this. It provided the automated accounting system IISE-48. It has been functioning at many enterprises already. It issues the necessary information to help correctly solve energy use questions. But there is no proper scope to the introduction of this advanced equipment.

Increase Responsibility

Waste of electricity is often permitted because of poor management. Business interests require an increase in the responsibility of the managers of all degrees for conservation. The state energy inspection systematically checks the correct consumption of electricity. Facts have been uncovered that are alarming. The greatest electricity losses in our sector occur at the coal industry enterprises. They constitute 285 million kilowatt-hours per year. A lot of energy is wasted at the enterprises of ferrous metallurgy, chemical and machine building industries, and for transportation. The following calculation shows how much this costs the state. The Donbass spends an average of 360 g of coal to generate 1 kilowatt-hour of electricity. Electricity losses for the rayon industry constitute 560 million kilowatt-hours per year. Consequently, in the Donbass alone, tens of thousands of tons of coal are burned during the year.

Unfortunately there are still numerous facts of wastefulness. In the production association "Ordzhonikidzeugol" alone, due to above-standard inflows and outflows of air in the ventilation system, 7.6 million kilowatt-hours of electricity are consumed every year. The water-pumping units with silted up water collectors operate unsatisfactorily.

Compressed air is used wastefully. There is an annual overconsumption above 40 million kilowatt-hours of power because it leaks in the mines of the production association "Artemugol'."

There are still many unused reserves of conservation. Often even those that are revealed by the agencies of the state energy inspection are not realized. The Oktyabr'skaya revolyutsiya Voroshilovgrad Diesel Engine Construction Plant has not yet recovered the electricity generated by the diesel generators during tests. This energy, about 17 million kilowatt-hours per year, is killed by rheostats, that is simply thrown to the wind.

Similar reserves of conservation of 500 million kilowatt-hours for the Donbass alone have been found. In other words, there is food for thought here for the power engineers and the consumers.

One should make special mention of the overconsumptions at the small enterprises. Analysis has shown that electricity losses here occur most often because of the leaders' lack of desire to expend the minimum efforts to eliminate losses. Instead of installing a shortheating line or solving the problem of delivering coal to a solid-fuel furnace, the majority of enterprises use electricity for heating and hot water supply. Cluster design electrothermal units are used, with low efficiency and without automatic temperature regulators.

The use of these electrical units has become widespread because of the comparative ease of their fabrication. No technical and economic calculations are made that substantiate the use of electricity to heat rooms. The power plant burns 2.6 tons of coal per year to operate only 1 5-kilowatt electric heating unit used to heat rooms. If you add all the losses and expenditures, then the use of electricity to heat rooms is not economically profitable and can be permitted only in exceptional cases. But even in these cases the use of electricity must be done economically and prudently.

In discussing the draft of the CPSU Central Committee for the 26th Party Congress, the collective of "Donbassenergo" planned new measures for conservation of electricity. In the future we will reduce the specific standards of fuel consumption, and diminish the consumption of energy for in-house needs. But the efforts of the power engineers alone are not enough. It is important to organize interaction between the producers and the consumers of electricity, to formulate and implement joint plans of saving. Electricity is a national resource.

9035

CSO: 1822

ENERGY CONSERVATION

CONCENTRATION, UNIFICATION OF ENERGY CONSERVATION STUDIES SUGGESTED

Yerevan KOMMUNIST in Russian 16 Jan 81 p 2

[Article by V. Markaryan, deputy director of Armenian Scientific Research Institute of Power Engineering, candidate of technical sciences, honored republic engineer: "Power Engineering , A Basic Sector"]

[Text] The entire country is presently discussing the draft of the "Main Directions for Economic and Social Development of the USSR for 1981-1985 and the Period up to 1990." It is no accident that power engineering is named as the basic sector of industry in it. Its leading development is the most important condition for the economic and social elevation of the country. What do we have in our republic in these terms?

The Armenian Scientific Research Institute of Power Engineering of the USSR Ministry of Power and Electrification is fulfilling projects to reduce electricity losses in the circuits, optimize the operating regimes of the power plants, and so forth. They are implemented by a unified economic contract with the enterprises of the Main Production Administration of Power and Electrification of the Armenian SSR without covering questions of the definite target program.

Fifteen scientific research organizations of union and republic subordination, as well as higher educational institutions are conducting research in the field of power engineering. But there is no unified plan or contracts on creative cooperation. Each works by itself. There is no exchange of results or accumulated experience. There is no form of coordinated work. This results in parallelism in the subject matter and organizational structure. There is no single scientific and technical policy in solving power engineering problems.

A situation has developed where the scientific research organizations are not oriented on solving the most important problems of scientific and technical progress. The appropriate scientific stockpile has not been created, and many urgent problems have been forgotten.

The statutes in the draft on the need to perfect the coordinated activity of the scientific institutions and deepen the bond between basic and applied research and production, as well as significant reduction in the introduction schedules are timely and correct.

This is true because one of the main indicators for the efficiency of scientific research is the volume of introduction as the ratio of the cost of actual introduced scientific research work to the total cost of the completed work.

Scientific development of a fuel and energy complex is an invariable condition for setting up the optimal structure of an electricity system. They must provide for the maximum energy efficiency of production, the minimum expenditures, ecological purity, and decrease in specific standards of energy consumption. In the industrial production processes, the coefficient of fuel use now rarely exceeds 40%. Its increase will not only designate a saving of fuel materials, but also everything necessary for their extraction, transporting and processing.

It is disturbing that the available reserves are not being detected and there is insufficient study of the use of secondary energy resources in the republic.

How can energy and fuel be conserved? Where and what types of them are used? None of the scientific organizations are specifically studying these questions. The extant standards for fuel and energy consumption are not scientifically substantiated. The enterprises sometimes set exaggerated limits and low planned assignments for conservation of these resources.

"Use material resources economically. In the five-year plan provide a saving of fuel and energy resources in the national economy totalling 160-170 million tons of comparison fuel, including 70-80 million tons by reducing the consumption standards." This is the task planned by the draft. It suggests broader involvement of secondary fuel and energy resources in the economic turnover.

Reliable energy supply of agriculture, efficient and economical use of organic fuel with regard for the use of solar and geothermal energy, and waste heat of power plants acquire urgent value and an important role in scientific research. This is explicitly expressed in the draft. These tasks must influence the subject matter of work.

The efficient use of fuel and energy resources requires concentration of the available available forces of the republic's scientific research organizations who are engaged in power engineering, water problems, solar energy, the gas industry, mechanization and electrification, etc. The draft stresses that it is necessary to have a comprehensive approach to the problem.

It seems that the third paragraph of the third section of the discussed draft, where it states: "Increase the responsibility of the ministries and departments for the level of research in the branch scientific institutions," should be supplemented with the following words: "and also guarantee control on their part over the participation of these institutions in the formulation of complex target programs associated with the economic development of specific regions."

ENERGY CONSERVATION

REDUCED PETROLEUM USE, DIVERSIFIED PRODUCTION CALLED FOR

Paris LE MONDE DIPLOMATIQUE in French Mar 81 p 19

[Article by Bruno Dethomas--passages enclosed in slantlines printed in italics]

[Text] For a country that is apparently spared by the "energy crisis"--a phenomenon "proper to the capitalist world"--the Soviet Union is no less facing problems that necessitate a policy close to those resolved upon by the great western industrialized countries: diversification of resources, growing resort to coal and water, development of nuclear energy and voluntary policies to fight against waste.

The leading oil producer in the world--with more than 600 million tons (603) in 1980--a major producer of natural gas with potential resources that represent more than one-third (34.9 percent) of the proven reserves in the world, the second largest coal-producer with reserves among the largest in the world, the USSR is more lavishly endowed with energy than any other country on the planet. The choices it is facing do not thus arise--like those of the main western countries--out of a fear of too great dependence or from a nearly intolerable economic political vulnerability to the outside world. On the contrary, the Soviet Union is an energy exporter and the biggest supplier for most of the countries in the communist group.

But while the main energy resources--mineral and water--are found well beyond the Urals, 80 percent of the energy is consumed in the European part of the country. Because of convenience--as in the West--oil has taken the place of coal in the last 20 years; coal has declined from a 53.9 percent share in 1960, to a 27 percent share in 1980, of the energy picture. Today, energy consumption relies on oil (46 percent), coal (27 percent), natural gas (24 percent), and miscellaneous energy sources accounting for 3 percent. But while the importance of the traditional deposits of "black gold" (Azerbaijan, Volga-Urals, Byelorussia, and Kazakhstan) is diminishing, exploitation of new deposits (eastern Siberia, Barents Sea, Sakhalin) is experiencing some delays, because of technical problems and harsh climatic conditions. It is also subject to increasing costs. In an article published in the review *ECONOMIE PLANIFIEE*, Mr A. Lalayants, vice president of the national planning commission, said recently that investments in the energy sector were now absorbing 40 percent of all industrial investment in the country. For 1981, the Soviet Union has set a goal of 610 million tons (up 1.16 percent from 1980) and, for 1985, the 11th plan has set the figure of 640 million tons, which was what in 1975 had been anticipated for 1980.

The emphasis is thus now put on the necessity of economizing on oil: /"Burning hydrocarbons is an inexcusable luxury, for the rapidly developing chemical industry has need of them,"/ it is said in Moscow, where leaders are sensitive to the changes over the last decade in the western energy market. With exploitation becoming more difficult and costly, and, above all, with western hard currency at a premium and the West suffering a serious energy deficit, oil will be spared and replaced wherever possible by other resources.

For the last 18 months--while French communists have continued to see in the struggle against waste /"a justification for the austerity policy being followed to the detriment of workers in capitalist countries,"/--Soviet leaders are now laying emphasis on energy conservation, believing it possible to reduce consumption over the next 10 years by 200 to 300 millions of tons of petroleum equivalent [TEP]. The vice-president of the national planning commission pointed out recently, moreover, that it costs two to three times more to extract and transport a ton of fuel than to put in place the technology that will make it possible to save that same ton.

A Concerted Effort

The USSR has used the raising of internal prices as a way of encouraging more rational utilization of energy less than the western countries. If the price of gasoline has increased--it is still only Fr 1.27 per liter--the price of electricity, of natural gas, of hot water, has not changed since 1948 (if one can believe the Swedish review PETROSTUDIES, we will however witness between now and 1 January 1982 a "drastic" increase in internal oil prices). On the other hand, every ministry has been given goals to reach, attention being concentrated, according to the Reuter agency, on heavy industry.

In the steel industry, it is a question of saving, in the next 10 years 7 million TEP in cast iron, 3 million TEP more by improvement of production techniques, and 5 million TEP in the nonferrous metals industry. Similar savings are called for in the chemical and petrochemical industries.

But no sector will be spared: there is talk now of thermal insulation, automobile builders are thinking about building less "energivorous" vehicles, and even agriculture will have to make an effort. It is true that in the USSR it takes twice as much fuel as in Finland to grow cucumbers in hothouses.

But, beyond the predictable slowing down of consumption, the Soviets are counting on diversification of production.

With 719 million tons of coal and lignite in 1979, Soviet production was 38 million tons lower than the original objectives, and 33.3 million tons lower than the revised objectives of the plan. As with oil, coal extraction is running into several problems: the European producing centers are always in the lead, though they have less than one-fourth of all the USSR's reserves. Moreover, while the mechanization of labor is very advanced, and the Soviet Union has not lagged behind technologically¹ in mining equipment, one finds in this field the highest rate of nonoperational equipment. Those weaknesses, added to manpower problems, have resulted in a significant lowering of labor productivity, particularly in the mines at Donbass, where it has gone from 526.8 tons per worker in 1974 to 470 tons in 1978.

Soviet leaders continue, however to show optimism based on reserves (6.8 billion tons, of which 5.7 billion are recoverable with present technical capabilities), which represent more than 45 percent of world geological reserves. So they speak of bringing production up to 1 billion tons before the end of the century.

But, in the short term, it does not seem very probable that big increases in coal production are going to make possible significant oil substitution, before developments in civilian nuclear technology. For nuclear energy is the other path chosen by the Soviets to curb resort to "black gold."

At the end of 1980, 12 reactors--representing an output of 10,000 megawatts--were in operation, and 10 others under construction, concentrated in the European part of the country.

However, here again, the goals of the plan are far from being achieved. Last June PRAVDA denounced the delays in construction of several power plants: poorly provisioned workyards, waste of metals and cement, and transport problems have kept the Soviets far from reaching the 30,000 megawatts of installed nuclear power which in 1971 were scheduled for 1980.

The leaders are no less resolved to move ahead and to replace the present reactors (pressurized-water and water-graphite reactors) with the rapid neutron series. A 600 MW breeder reactor has thus been in operation in the mid-Urals since 8 April 1980 and, in November 1979, the decision was made to move to the industrial phase with a major program of rapid-neutron nuclear power plant construction. In the decade to come, installed nuclear power should thus reach 100,000 MW and hydro-electric power 90,000 MW.

This policy of diversification is intended to reduce by half, over 10 years, oil's share in energy consumption; the savings procured by these measures should reach--at present world prices--some 20 billion rubles per year².

Thanks to its immense resources, the USSR has long made energy one of its privileged domains, in terms of cooperation with other nations.

But exports of natural gas to Western Europe--which are presently the subject of negotiations--are the best example of the cooperation hoped for from the USSR in the years to come.

During the 11th 5-year period (1980-1985), production of natural gas is supposed to go from 435 billion cubic meters to 600-640 billion. Thus the beginnings of exploitation of the deposit on the Yamal peninsula, at the mouth of the Ob, with transport via a 5,000-km gaspipe, are already under way. But while Western Europe needs natural gas to supplement the waning deposits at Groningue (Netherlands) and Lacq (in France), the USSR, as we have seen, is running into problems of financing, even technological problems, and of the inadequacy of its pipe production capacity. In exchange for 40 billion cubic meters of natural gas³ per year over a 20-year period beginning in 1986, the European countries would thus agree to finance and assist in the exploitation and transport of the Siberian gas.

So one sees the determination of the Soviet leaders to mobilize all their energy resources and to promote a natural utilization running into a number of problems. But the reserves exist, and they are exceptional.

FOOTNOTES

1. CP. "Coal in the U.S.S.R. during the 1980's, " LE COURRIER DES PAYS DE L'EST, October 1980.
2. One ruble: Fr 6.35
3. Western Europe already receives 25 billion cubic meters of Soviet natural gas.

9516

CSO: 3100

ENERGY CONSERVATION

VIOLATIONS OF ENERGY CONSERVATION MEASURES CITED

Kiev RABOCHAYA GAZETA in Russian 31 Jan 81 p 2

[Article by M. Luk'yanov, head of the heavy industry department of the Ukrainian SSR KKK: "On a Pattern of Conservation"]

[Text] The instructions on observance of the most stringent economy of fuel, electricity and fuel have become an indisputable rule of management at the majority of our republic's enterprises. This is not the situation everywhere. This is indicated by the results of checks made by the people's control agencies. Take for example, the coal industry. It is one of the energy-intensive sectors. In 1980, the enterprises of the Ukrainian SSR Ministry of the Coal Industry were to provide an additional saving of electricity of 0.8% of the production consumption. Instead of conserving, the sector overconsumed more than 300 million kilowatt-hours. Of the 19 production associations for coal extraction, the majority overconsume electricity as opposed to the planned specific standards.

Analyzing these data, one is convinced again that squandering of energy resources is the direct consequence of the lack of administrative abilities of individual leaders, and the irresponsible approach to fulfillment of the conservation assignments. This alone can explain the fact that the association "Donetskugol", even with overfulfillment of the annual plan for coal extraction, overconsumed 7 million kilowatt-hours of electricity. There are reserves for reducing consumption of electricity per unit of product here, but they are often not utilized. In particular, many mines use piston compressor ring valves instead of direct-flow, and machine transformers to activate synchronous electric engines instead of semiconductor. The permissible level of air leaks in the ventilator and compressor units is significantly exceeded. The drainage system is in unsatisfactory condition. The working schedules of the hoisting units are disrupted. These reasons caused inefficient consumption of 7.5 million kilowatt-hours at the 5 checked mines alone. In addition, there are great electricity conserving reserves from concentrating mining operations, perfecting the technology of extraction and transportation of coal and rock, reducing the emergency shut-downs of equipment, and decreasing the fuel ash content.

The "Yuzhnodonbasskaya" mine is a characteristic example of poor management in energy resource consumption. It is headed by the experienced director M. I. Vislyy. He previously worked as the chief power engineer. For a number of years the mine has fulfilled the plan of coal extraction, while systematically overconsuming electricity on large scales, from 2 to 3 million kilowatt-hours per year, or 6-8% of the production consumption. What is the reason?

The external flows of air in the ventilation unit of the skip shaft are 7 times higher than the permissible limit. Large losses of compressed air and water are permitted because of the poor working condition of the shut-off fittings. Over 1 million kilowatt-hours were wastefully consumed for these reasons alone. According to the claim of N. Vialiy, he does not have time for this. But there was enough time to compile a fictitious report about the work supposedly done to save electricity. According to the mine data, all the planned organizational and technical measures were completely fulfilled and 1.5 million kilowatt-hours were saved. In actuality, as the check established, the saving was 10-fold lower. Exaggerated measures were included among the "fulfilled." For example, the pumping unit with high-voltage electric motor was not installed. They are continuing to release water at the 530-meter level instead of trapping it at the 480-meter level. A number of other measures have also not been executed.

According to the party and government instructions, the development and introduction of scientifically substantiated energy resource consumption standards should be viewed as a matter of primary importance. The association "Donetskugol" underestimates this work. It permits establishment of unjustifiably exaggerated electricity consumption standards for the mines. For example, at the M. Gorkiy mine that successfully extracts coal, despite a certain decrease in the rated output of the power equipment, the plan for electricity consumption for 1980 was exaggerated by the association for no substantiated reason by 7 million kilowatt-hours. This was 7%. This permitted the mine to report a supposedly attained saving of 1.5 million kilowatt-hours while condoning wastefulness and nonfulfillment of the planned measures to curtail electricity consumption. Additionally, the "Kirovskaya" mine that has not fulfilled the coal extraction plan for a number of years, had a specific electricity consumption standard that was unjustifiably underestimated by 13%. The overconsumption of electricity was consequently 12 million kilowatt-hours for this mine, or 34% of the production consumption. It is clear that with such planning neither collective has a stimulus for saving and prudence. The introduction of scientifically substantiated standard planning will permit objective evaluation of the work of each enterprise.

Inobservance by the mines of the schedule for restricted electricity consumption in the maximum load hours in the power system indicates the low level of discipline. There were seven such cases in October, and 10 in November. The association was forced to pay for the electricity at higher rates. The losses for the 2 months constituted 470,000 rubles, but none of the guilty officials were made answerable.

The mines do not completely utilize the reserves of fuel conservation from burning methane in the boilers. This methane is trapped during degasification of the beds. Only 6 mines presently burn gas with a methane concentration over 30%. They use only half of the extracted gas. Complete burning of it would save an additional 22,000 tons of fuel per year. Work to use unconditioned mine methane is slow. The sawdust formed in the mines from cutting wood is practically not employed in the boiler furnaces. This is another 5,000 tons of fuel per year.

Many mines of this association grossly violate the established procedure for calculating and recording fuel for production and technical needs. For a quarter, the mine "Yuzhnodonbasskaya" had one operating steam boiler, while coal for two boilers was registered. This resulted in an unsubstantiated recording of 1,300 tons. In the last 2 years, the mine has overconsumed 13,000 tons of coal versus the limits allocated to it for production consumption. It paid a fine of 20,000 rubles. In 2 years, the association as a whole overconsumed over 60,000 tons for these purposes. It paid a fine of 584,000 rubles. Part of this fuel was squandered in the form of

its sale to outside organizations. The coal marketing organizations sometimes play an unattractive role in this matter. They should intercept such facts. For example, in April 1980, the head of Ukrglavuglya [Ukrainian Main Administration of the Coal Industry], D. D. Nikolayev, without the right, permitted the director for supply and transportation of the "Donetskugol'" association, B. I. Zlogodukhov to ship six cars of coal without orders to outside organizations in exchange for construction materials. After this, 206 tons of coal were sent to the Melitopol' furniture plant, 69 tons to the Odessa plant of commercial fabrics, and others in exchange for their products. The "Donetskuglesnababyt" that is under the jurisdiction of Ukrglavugol' fined the association 4,500 rubles.

The republic committee of people's control, after examining the findings of the check, disciplined the leaders of a number of mines and the association "Donetskugol'" and held them materially answerable.

The mines and association have now been issued orders that approve specific measures to impose order in the use of energy resources and fuel. The responsible individuals have been defined. It is necessary to apply all efforts to realize the planned measures in order to guarantee fulfillment of the assignments set by the party and government for conservation of fuel and energy resources.

9035

CSO: 1822

ENERGY CONSERVATION

LACK OF FUEL, INEFFICIENCY DEPRIVE BAKU RESIDENTS OF HEAT

Baku VYSHKA in Russian 15 Feb 81 p 3

[Article by M. Eyvazova and V. Abashin: "Is It Warm in Your House?"]

[Text] There has not yet been any frost this winter. But no one can guarantee that the spring-like sunny days will not suddenly become cold.

This alarms the residents of Baku, Sumgait and the Lok-Batan settlement. From year to year they are convinced by their own bitter experience of all the sins of the heating system, and the poor management and indifference of the workers whose duty it is to supply heat for the houses.

The editorial staff receives many letters in which the people indignantly describe their misfortunes. They occur either because of complete lack of heating in the apartments for several years in a row, or are associated with irregular supply. Here are several excerpts from these letters.

"...Our address is Akhmedly settlement, 829th lane, house 6"a." Every year when winter comes we sit in cold rooms. We have one-room apartments facing north. They are mainly occupied by elderly people, veterans of labor and war. We have a first class boiler room, but this is already the seventh winter the apartments have not been heated..."

"We the residents of the Novyye Akhmedly settlement are writing to you from apartments Nos 2316-20, houses Nos 1,2,3,7,9,86,88,90 and 92. The heating pipes in our apartments barely get warm. It is cold in the rooms, the children and adults get sick. And we pay money for heating..."

"We, the residents of the fourth microrayon, live in houses Nos 10, 16 and 22 on Ulitsa Vneshne-Kol'tsevaya. The apartments are nice and well-built. There is only one trouble, they do not have heat."

"Ulitsa Kislotnaya, houses Nos 73, 75, and Ulitsa Darvina, Nos 4,6,8 and 12. This is already the ninth year we have been "fighting" for normal heating in our apartments. It is shameful to write this, but our children go to sleep in warm clothing."

"...Petroleum workers mainly live in the Lok-Batan settlement. I earnestly ask you to help us to live under normal conditions. There is no heat, the pipes are not repaired, and the hot water pours out on our street. We are the residents of houses Nos 21,23,25 and 27 on Ulitsa Nizami."

"...There is no heating in kindergarten No 22 in Sumgait. It became clear back in March of last year that we would not have heat. In fall they began to tell us that repair is needed and this is complicated. At the same time our children are freezing, catching colds and becoming sick..."

This is the pile of letters that grows every day. I will not count them all. I will only name the addresses: first, third, fourth, fifth and seventh microrayons, Zyskoye shosse, Ulitsa Mir-Kasimova, house No 1; Akhmedly settlement, Ulitsa Pervomayskaya, 241; Palace of Trade Union Athletics on Kirov Prospekt, 12; secondary school No 9 of the Nasiminakiy rayon.

The most complaints come from the residents of the Shaumyanovskiy rayon of Baku. The houses on Ulitsas Kislotnaya, Nakhichevanskogo, Neftepererabotchikov, Leonova, Nasimi, Rustanov and Gagarina have irregular heat supply.

We would need several weeks in order to find out who is responsible for the fact that people are living in cold rooms.

Who is guilty? Perhaps this cannot be answered unequivocally.

The residents of house No 12 on Ulitsa Narimanov in the Lok-Batan settlement have waited for heat for over a year. Back on 10 January 1980 when the pipes broke under the force of hot water, the mechanic of the residential-communal service of the NCDU (petroleum and gas extracting administration) "Karadagneft" shut off the slide valves. The repair ended here. The residents appealed everywhere, the communal-residential services of the NCDU "Karadagneft", the party raykom, the ray-ispolkom and the sanitary-epidemiological station. But the radiators remained icy. They apparently were startled after Mariya Pavlovna Ul'yanova, a resident of the house, went to the party raykom in order to complain about the heartlessness of the residential-communal services workers. This woman wanted to say a lot, but her heart was weak. She fainted, spent 20 days in the hospital, and when she returned, saw the yard dug up by a bulldozer and mended pipes. The residential-community services mechanic, the same Said Abdulazizov, did his work in a hurry. It was necessary to respect a fellow countryman. There was a wedding and here the yard was dug up like a garden in spring. He gave up on the slit from which water was oozing and began to fill the trench in with dirt. I. Martirosyan who worked for 30 years in the NCDU as a gas welder and today is retired, wanted to stop the mechanic, but did not. After greeting the New Year in cold apartments, the residents decided to repair the heating pipes themselves. They collected the money and found a welder. I. Martirosyan ran into a problem. It turned out that while "repairing" the heating pipe, the residential-community services mechanic had damaged the water pipe. Putting on rubber boots, the residents descended into the basements overflowing with water and somehow stopped the leaking. But they did not stop asking the residential-communal service, because the repair was only temporary.

We spoke with the chief engineer of the residential-communal service, S. Aliyev. The residents were there in his office. He listened to their rising agitation with startling calm. With his entire appearance Salman Aliyev indicated that in his 20 years of working in the residential-communal service he had already become used to such visits.

"Your repaired it yourselves? Well done! Thank you."

Then he began to talk about his misadventures, shortage of pipes and lack of workers.

Excuse me comrade Aliyev, but what does this have to do with working people and retirees? You are the head of the section that must provide people with heat. The onus is on you!

Abandoned pipes have been rusting for a long time in Lok-Batan, on Ulitsa Nizami, next to the house in which Petr Pavlovich Ryzantsev, veteran of labor and the Great Patriotic War lives. Not far away is a deep channel filled with smoking water. A hot rivulet flows down the street, while the residents of the settlement heat their rooms with electric fireplaces and bricks heated red hot on gas stoves. In other words, they do what they can. The deputy head of the NGDU "Karadagneft'" Abbas Kasumovich Kasumov eagerly promised to look into this mess and provide heat for the houses of the petroleum workers. But time passes and nothing has been done. The promises of A. Kasumov do not have a warming effect, and this is indicated in the frequent calls to the editorial office from Lok-Batan.

The head of the heating network of the Leninskiy Rayon, F. Movsumov, on the contrary, did not give any promises from the beginning. According to his convincing words, this is what happened: there is heating in the houses, but F. Aliyev who lives in high building No 1 on Ulitsa Mira and who wrote to the editorial staff, permitted the grossest technical violation by replacing the convector with a radiator. F. Movsumov was very eager to draw confusing circuits and speak about the negligence of the builders who only provided two power assemblies for the large nine-story building. The building was inspected long ago, but the residents began to complain of the lack of heat only after a first aid station and children's stomatological polyclinic were set up on the first floor.

"True," agreed F. Movsumov, "but I am not to blame here. The leadership of these institutions negotiated with some RSU [repair-construction administration] and installed heat for themselves. I warned them and said that the residents will suffer, and look at the result."

This is the explanation of an outside observer, and not the head of the heating network. Whether with his silent agreement, or because of inaction on the part of F. Movsumov, the builders disrupted the heat supply for the house.

In the residential-operational section No 81 of the Leninskiy rayon we found out that many homes in the microrayon complain of the lack of heat.

"You know that because of this the people refuse to pay their rent. We have accumulated many debts," technician I. Grigoryan said anxiously. "I have been trying since the morning to find the senior foreman of the heating network, Ziyatdin Muradov. The leak in the basement has to be stopped, and I cannot do it."

Something happens every day: the so-called lower setting malfunctions, then the heat pipes have to be "opened up" to eliminate the leak and raise the water pressure.

"It is quite impossible without leaks," comrade Movsumov told us confidentially. "The gate valves leak water, and the gaskets also. Are the residents really not to blame? Look at what they have done. They have willfully replaced the convectors with radiators."

These convectors practically did not heat the icy-rooms of the paneled building in the winter months. The problem is not so much with this replacement, as the fact that the heating network of the Leninskiy Rayon was poorly prepared for winter. This is why the two welders and two mechanics that are available bustle about every day with tools in their hands from one house to another.

We observed this picture in the seventh microrayon as well. There was an accident on the main line directly before our arrival.

"What is there so exciting about this. Everything will be in order," the foreman of the heating station Nikolay Akopyan stated optimistically. "I will drive this wooden peg into the hole, that is all. It is ready! It will swell from the water and then nothing will budge it from the pipe."

Here we made another discovery. According to the chief engineer of the heating network, Z. Zeynalov, it happened that the residents can compensate for the dearth of heat in the apartments by running radio and electrical instruments, televisions, irons, tape recorders and radio-record players, by food prepared in the kitchen. In reciting the list, Zeynalabdin Annagiyeovich apparently forgot such an important factor as our body temperature.

The families living in the fourth microrayon suffer from the cold for several reasons. In some houses and there are a lot of them, the heating registers and pipes to warm the floor and ceiling are out of order. It is true that they had been successfully replaced in 40 apartments with radiators before winter started. The other 160 families still await their turn. P. Magerramov blamed the special RSU of the Bakzhiupravleniya for this. The builders did not agree to make the replacement in the individual apartments. They find this work unprofitable. They will do an entire house or a block.

"I will explain why there was no heat in the houses on Ulitsas M. Gadzhiyeva and S. Adilya in the third microrayon. An accident occurred on the route that services the Kirovskiy Rayon. We had everything in order. In the upper part of the fourth microrayon there is still no heat because it is located 62 meters above the boiler house and the ROK-3 "Azglavenergo" could not provide the appropriate pressure."

"But there is a technical solution. You could install a pump!"

The residents of house No 75 on Ulitsa Kislalnaya in the Shaymyanovskiy Rayon are constantly writing to the editorial staff. They have gone many times to the residential-communal service No 26. But the head Kh. Abbasov always has the same answer: "There is no welder." He comes to the residential-communal service once a week. When the welder comes there are no gas cylinders. This explains the prolonged repair in residential-communal service No 26 of the broken pipe in apartment No 28 where a single woman, a retiree, lives. We went back to Comrade Abbasov in the middle of January and again heard only assurances instead of real heat. Then it turned out that several houses, including the houses on Ulitsas Kislalnaya and Darvina are heated by the boiler of the residential-communal administration of the Ministry of the Petrochemical Industry. This is what happened. Although the boiler house has already been operating for 10 years, its owner has not yet been announced. It is not on the balance books of the residential-communal administration

of Industrial Construction, nor the balance of the Vorovskiy Experimental-Mechanical Foundry, nor the residential-communal administration of the Ministry of the Petrochemical Industry. It belongs to no one! But all these years, the residential-communal administration of the Ministry of the Petrochemical Industry has been operating the boiler house. Contracts are concluded for supply of heat and the corresponding payment is taken. But as soon as it is a question of repairing the boilers or routes, the leader of the residential-communal administration, Vagif Guseynovich Guseynov shrugs his shoulders. The boiler house is not ours so we will not pay a kopeck for repairs! The situation is absurd. The actions of the residential-operational office are still not justified. A contract exists between the department and the residential-operational office. Who else but the head of the residential-operational office should defend the fulfillment of the contract conditions?

Jumping over the ruts and puddles of artificial origin (they are found at every step in the Shaumyanovskiy Rayon), we look up one of the many addresses: Ulitsa Nakhichevanskogo, house No 92.

Our conversation took place in the cold apartment of a worker, war veteran Khalyg Verdi. While bright children summoned the house residents, old Fat'ma khanum showed us her burnt hand, explaining that she injured it after dozing off while warming herself at the gas stove. A whirlwind of agitation and hopes burst into the apartment. Each vied with the other to repeat what we had already heard many times. "When will we finally get reliable heating?"

We follow to the office of the head of the Shaumyanovskiy Rayon heating network, Comrade R. Mekhtiyev. The office is next to the house. It is warm here and a large-scale map of the Shaumyanovskiy Rayon heating network hangs on the wall. We ask about the facility that looms large outside the window. It turns out that the residents themselves are to blame. It is their duty from time to time to open the Mayevskiy valves located on the upper floors and let out the air that has formed a plug.

"Our TEK only services the departmental houses to the basements. The rest is the responsibility of the residential-operational offices. As for the houses of the local soviet," R. Mekhtiyev explains, "we also service the apartments. Interruptions occur in the heat supply only when the electricity is turned off. The rest of the time the TEK runs normally. But due to the low pressure of the gas it is difficult to provide normal water temperature associated with the temperature of the atmospheric air. When a medium pressure gas line is introduced, the heat supply of the rayon will drastically improve," he eagerly assured us.

We followed the gas line and heard from the builders of the trust "Azorneftestroy" that a cut would be made in several days. Two weeks after this conversation, we spoke with the chief engineer of the heating network, Rafik Yunusov. The planned cut had not yet been made. There was still not enough gas because the boiler was operating poorly.

The letter of G. Fatalov, resident of house No 74 on Ulitsa Neftepererabochikov, led us to the Shaymyanovskiy rayispokom. The residents came here with complaints about the lack of heat in January of last year. Last year's complaint had not been abandoned. It had its own number. Moreover, a document had been attached to it with a large stamp "Control" signed by the acting chairman of the rayispolkom, S. Sungurov.

As you see, respected Comrade Fatalov, your first letter is under a watchful eye. We hope that you will become warmer not only in spirit.

At the 44th city party conference, candidate for membership to the CPSU Central Committee Politburo, first secretary of the Azerbaijan Communist Party Central Committee, Comrade G. A. Aliyev talked about the poor heat supply of the city, and about the complaints the Party Central Committee receives from the residents of the Akhmedly settlement. Perhaps, today when these lines are being written, in the houses of the settlement (in particular, in block No 2935 "a") there is heat. But the residents are not absolutely sure that there will be heat tomorrow. This is explained by the fact that the TETs "Krasnaya zvezda" is experiencing a water shortage. Water is needed to supply heat to this block. At the same time at the ROKs [expansion unknown] of the enterprises of the water-heating networks and the unified boiler houses there is overconsumption of drinking water, sometimes 4-5-fold above the permissible standards.

We spoke with many workers in the city's heating service. It was surprising and alerting the ease with which they passed the blame from one to another, assuring us that in their sections everything is in order, with the exception of small omissions.

The draft of the main directions states: "Multiply and efficiently employ the national wealth in the name of further growth of the country's economy and improvement in the welfare of the Soviet people. Provide in all links of the national economy a stringent pattern of saving and prudence. Take the time factor into account more fully, fulfill the set tasks in shorter periods, and wage a decisive battle against poor management and wastefulness."

What do we see instead? Squandering of natural resources, energy and the national wealth. It is difficult to even compute how much the heat costs that does not reach the residents or the water that uselessly leaks into the ground.

There are other unresolved problems. Many houses of the local soviets receive heat from the departmental boiler houses that are, strictly speaking, "orphans." If an accident occurs then the house of the local soviet is the first to lose heat.

Would it not be expedient to coordinate the activity of the heat services that are under different departments, and organize them under single supervision? Even the main heat routes now have several managers.

The equipment supply leaves something to be desired. Many heating stations and boiler houses do not have the basic instruments to measure and regulate the daily consumption of water, pressure and temperature, i.e., all that would permit a saving of electricity, water and fuel.

When we met the chief engineer of Bakteploset' [Baku Heating Network], S. Gezalov, he complained that he only had two bulldozers for the entire city and they were always being repaired. It seems that complaints will not help the situation. The equipment fleet needs to be revamped and supplemented. Everything is in the realm of possibility. One only needs to put one's heart into it.

There is still no complete coordination in the activity of Bakvodoprovod, Bakgaz and Bages. Without it, it is not easy to solve the problem of reliable heat supply for our city. If an interruption occurs for some reason in the supply of water,

gas and electricity, even for a short time, a maladjustment occurs in the heat supply.

For reasons not understood, the Ministry of Communal Services of the republic is standing aloof from these important and complicated problems. It has placed complete responsibility for the heat supply of Baku on Bakteploset'. It takes only the financial troubles of this administration on itself.

The root of the evil also lies in the fact that in inspecting the houses, the heating network workers bargain with their conscience. They sign the certificate without making a thorough check of the complete readiness of the building for the heating season. It is found in winter that the pipes are clogged with construction waste, and concrete and that malfunctioning heating instruments have been installed.

There is a wise old saying: prepare your sled in summer and your cart in winter. This really happens to a good and zealous manager.

It is also interesting why the workers who are to blame for the annual shortage of the necessary heat, the leaders of the rayon subdivisions of the Bakteploset', the UKS [administration of capital construction] of the Bakgorispolkom, "Azglav-energy" and the departmental boilers houses are not responsible for their unsatisfactory work? But it is most important to unite the efforts and increase the responsibility of each worker on whom the reliable heat supply of each house and each apartment depends.

9035
CSO: 1822

FUELS

PARTY ORGANS PUSH EKIBASTUZ FUEL-AND-POWER COMPLEX BUILDUP

Moscow PARTIYNAYA ZHIZN' in Russian No 2, Jan 81 pp 35-39

[Article by B. Isayev, first secretary of the Pavlodarskaya Oblast Committee of the Communist Party of Kazakhstan: "The Ekibastuz Fuel and Power Complex"]

[Text] The draft of "The Main Directions for the Economic and Social Development of the USSR During 1981-1985 and During the Period up to 1990" assigns an important role to the Ekibastuz Fuel and Power Complex. This concerns a buildup in the mining of coal and the erection of large GRES's.

"It is hardly necessary to state," Comrade L. I. Brezhnev pointed out at the October 1980 CPSU Central Committee Plenum, "how much the national economy's effectiveness depends upon an uninterrupted supply of fuel and power."

This situation is the center of attention of communists and workers of Pavlodarskaya Oblast. Active participation in the shaping and development of the Ekibastuz Fuel and Power Complex is a subject of special concern to the oblast's party organization. V. I. Lenin pointed out the vast economic importance of Ekibastuz back at the dawn of Soviet power.

Lenin's foresight has found fulfillment. Ekibastuz is now one of the centers of the mining industry and of power engineering. Its economic and productive potential grows with each passing year. It is already exerting a great effect on the supplying of coal and power to the country's large economic regions and has become the base, the heart of the Pavlodar-Ekibastuz regional-production complex.

Ekibastuz began to be developed in systematic and integrated fashion after the adoption at the start of 1977 of the CPSU Central Committee and USSR Council of Ministers decree, "On the Creation of the Ekibastuz Fuel and Power Complex and the Construction of a 1,500-kV Ekibastuz-Central Economic Region Direct-Current Electric-Power Transmission Line." This document defined a concrete program of actions and resources for achieving the goals that were set. Naturally, the party's oblast committee had to solve a large number of questions that touched on party practice in supervising the economy, the establishment and buildup of new laboring collectives and their nuclei—party organizations, and the selection, assignment and training of personnel.

Five thermal electric-power stations with a capacity of 4 million kw each are to be erected at Ekibastuz and on the shores of Lake Balkhash, in accordance with a

decision of the party and the government. The Yermakovskaya GRES is in operation. New coal enterprises--strip mines--also are being established.

Such energy-intensive industries as ferrous and nonferrous metallurgy, oil refining, machinebuilding, light industry and the food industry will be developed still more.

The energy of Pavlodar's Irtysh region will go to numerous customers, not only in the form of trainloads of coal but also over wires. The Ekibastuz-Central Economic Region power bridge, over which more than 40 billion kw-hr will be transmitted annually, will stretch for 2,415 km over Kazakhstan's steppes and across the Ural Mountains. It is proposed to complete during the current five-year plan the erection of two more large power-transmission lines--the Ekibastuz-Chelyabinsk and the Ekibastuz-Itat. Pavlodar's Irtysh region will become a most important component of the USSR Unified Power System.

It will be possible to carry out the tasks established for the complex and to insure the success of the whole affair only if the level of organizational and political work is raised, exactingness toward personnel is intensified, and management methods are improved. Therefore the party's obkom, right after the issuance of the CPSU Central Committee and USSR Council of Ministers decree, acted on the question of establishing the complex on the basis of the plenum's discussion. Concrete measures were worked out here that are providing for introduction of the planned facilities by the deadlines established. Communists and party organizations and committees have taken the CPSU Central Committee and USSR Council of Ministers decree under their daily monitoring. And that is not all. Strict socialist order has been established at the construction projects and at existing enterprises, and discipline has been strengthened. Life itself dictated such measures. The fact is that our oblast is experiencing a severe shortage of work hands, especially of rated specialists--construction workers, installers, engineers and technicians. Figuratively speaking, each pair of hands in the oblast is accounted for. This is why the oblast party organization adopted the policy of introducing the scientific organization of work and improvement of the forms of material and moral incentives.

Many questions about the activity of city committees and primary party organizations of the coal men, power engineering workers and the builders engaged in erection of the complex were examined recently at meetings of the obkom's bureau and secretariat. Discussed were: raising the level of supervision of the economy, the training of people, and improving organizational and political work. Party organizations and laboring collectives have been oriented to achieving high final results through an acceleration of scientific and technical progress, growth in labor productivity, and intensification of the savings regime.

The obkom, jointly with the party's city and rayon committees, primary party organizations and economic organs, have done much work to strengthen the production, technical and economic services of enterprises, to intensify the savings regime, to promote socialist competition, and to orient laboring collectives to high final results.

The Ekibastuz Fuel and Power Complex still does not have very much of a labor history. However, bright pages have already been inscribed in it, especially during the 10th Five-Year Plan. The changes in Pavlodar's Irtysh region stagger the

imagination. They are a direct result of the practical implementation of socialist principles for the development and deployment of productive forces.

The pride of the complex is the Bogatyr' Strip Coal Mine. The following fact indicates the scale of its output: while all Ekibastuzgol' [Ekibastuz Coal-Mining Association] enterprises mined 70 million tons of coal last year, this one strip mine extracted more than 47 million tons. Mighty rotary excavators with a productivity of 5,000 tons of coal per hour operate here. More than 250 million tons of fuel have been sent to customers since startup of the first phase of the Bogatyr'. Coal was being mined even during construction. The cost for erection of the mine has already been recouped completely. And the highest labor productivity in the industry has been achieved.

The Bogatyr' will not remain the basin's leader for a long time. The creation of a whole family of new giant strip coal mines has been called for. For example, erection of the Vostochnyy Strip Coal Mine has started, at which new equipmental and technological solutions will be applied for the first time.

Development of the fuel and power complex has exerted a considerable influence on building up the oblast's whole economy. During the 10th Five-Year Plan alone industrial output rose 42 percent. More than 70 million rubles' worth of output were produced above the plan. Agriculture's workers achieved good successes in developing production. They fulfilled the plan for almost all indicators.

Capital construction has acquired a broad scope: the amount of capital investment assimilated is unprecedented in the whole history of the oblast. During the 10th Five-Year Plan more than 50 industrial enterprises, departments and large facilities were put into operation. Among them were the first phase of the Pavlodar Oil Refinery. CPSU Central Committee General Secretary and USSR Supreme Soviet Presidium Chairman Comrade L. I. Brezhnev heartily congratulated the builders, installers, operators and all workers who participated in the erection of these facilities.

Behind the management successes were much laborious organizational and political work and a growing level of party supervision of the economy. However, the successes in well-managed construction and buildup of the fuel and power complex do not satisfy the communists. The topic of discussion at extemporaneous meetings in party organizations and laboring collectives and at plenums and gatherings of party activists is not only how to consolidate the successes achieved but also how to develop them.

We will not conceal the fact that many problems and difficulties arose in practice, but they have been surmounted successfully. And this results to a great extent from the fact that the oblast's party organization has felt and is feeling the constant effective assistance on the part of the CPSU Central Committee and the Central Committee of the Communist Party of Kazakhstan. The CPSU Central Committee recently examined the report of the party's obkom about savings of fuel and power resources at the oblast's enterprises and construction projects, and it adopted a resolution that defined precisely and clearly the prospects for the work of the oblast party organization and of the laboring collectives. The integrated buildup of Ekibastuz and intensification of the construction of the Ekibastuz Fuel and Power Complex are of enormous economic significance. In the light of these program documents of the oblast, great help has been extended in all areas of

engineering, economic and social development. The obkom, relying upon city and rayon committees and primary party organizations, is striving to raise politico-economic and ideological education work to a qualitatively new level and to increase the activeness and initiative of communists and workers in solving the problems that are being faced. All the prerequisites for this exist.

During the last 5-year period, the Ekibastuz city party organization not only grew but it was strengthened organizationally. At industrial enterprises, construction projects and the transport terminal alone, 58 primary party organizations are operating, of which 15 were created during the last 5-year period. There are 3,800 CPSU members at work here. The main points here are that the structure of party organizations has been improved and the number of shop organizations and party groups has risen. Party committees have been established in the larger party organizations. One of them is the party committee of Ekibastuzenergostroy [Trust for Construction of the Ekibastuz Fuel and Power Complex], whose party organization counts 600 communists within its ranks.

Positive shifts have occurred in the methods and style of work of the party's Ekibastuz city committee. The nature and level of preparation of the questions that are examined at plenums and meetings of the party's activist element and at sessions of the party's gorkom bureau have been changed. The more important problems, which touch upon various aspects of party and economic work, are put up for discussion. Thus, the tasks of the city party organization in fulfillment of the CPSU Central Committee and USSR Council of Ministers decree, "On Creation of the Ekibastuz Fuel and Power Complex and the Construction of a 1,500-kV Ekibastuz-Central Economic Region Direct-Current Electric-Power Transmission Line," were examined in detail at the plenum, the gorkom seeing to it that the question of erecting the complex stays on the agenda for meetings of communists and sessions of bureaus and committees, in order to consolidate the activeness of primary and shop party organizations and party groups. And, as a result, many of them have managed to correctly marshal their efforts and to arrange for active monitoring and checking of execution.

A definite system for operation with personnel prevails in the city's party organization. Its distinctive features are high exactingness toward supervisors and specialists and a raising of their initiative in solving management problems. Energetic production organizers and skillful educators have developed at the complex's enterprises and construction projects. These include General Director of the Ekibastuzgol' production association Hero of Socialist Labor S. Kurzhey, manager of the Ekibastuzenergostroy trust E. Filatov, Bogatyr' Strip Coal Mine Director V. Kalandarishvili, chief of Ekibastuzshakhtostroy [Ekibastuz Coal-Mine Construction Combine] A. Fridlyand, and many others.

Energetic workers with initiative are now in charge of primary party organizations. Enjoying great prestige among communists and all workers are, let's say, party organization secretaries A. Tsygankov, G. Zaychenko, G. Golov, G. Timofeyeva and others.

But still not everything is going just as planned in developing the complex. The oblast party organization and the USSR Ministry of Power and Electrification were subjected to just criticism at the November 1979 CPSU Central Committee Plenum for unsatisfactory erection of the specially built thermal electric-power stations. The party obkom thoroughly analyzed at its plenum the mistakes that had been made

and developed concrete measures for speeding up the construction of these facilities and for eliminating deficiencies in the work practice of economic organs and party organizations. The main impediment was the lag in the construction of housing and facilities for cultural and everyday amenities, and, as a result of this, a shortage of construction workers. After revealing the deficiencies and determining the causes for the failures, the obkom, jointly with city and rayon committees, primary party organizations and economic managers and specialists, worked to step up the pace of housing construction. But this was not enough. Measures were taken to strengthen the production capacity of construction organizations, particularly the Yermak Reinforced-Concrete Products Plant. The capacity of enterprises for making local building materials was increased.

The Pavlodar, Ekibastuz and Yermak city party committees developed specific measures that will help to strengthen the complex's construction projects. The Ekibastuzenergostroy trust and Ekibastuzshakhtostroy combine have been augmented by workers of the construction trades. The GRES construction projects have been supplied continuously with the required building materials, parts and structure. Provisioning of the builders with transport equipment also has been improved. Personal amenities and shopping and medical services for the builders have been greatly improved at the complex's construction sites.

The finishing work on the second dining hall that is being built at GRES-1 was done by forces of Pavlodar city construction organizations after a search for internal reserves. Pavlodar city plants fabricated tooling for making constructional structure for Ekibastuz kindergartens and schools.

A standing operating commission was created under obkom party secretary M. Makeyev at the fuel and power complex by decision of the party obkom. Its job is to mobilize the oblast's internal reserves for successful erection of the facilities and to help party organizations and economic managers in organizational and political work at the construction projects. The commission is monitoring progress in carrying out the plans for erecting the complex's facilities. The commission's composition includes: responsible workers of the party obkom and the oblast executive committee, and managers of oblast organizations upon whom the solution of questions of erecting the complex depends. And here is the result. Comparatively recently two power blocks of GRES-1 were put into operation, and the erection of the third block is being completed. Power transmission lines are being erected at a rapid pace. Last year the plan for putting housing into operation was fulfilled. During the preceding five-year period every second family obtained a new apartment in Ekibastuz.

Much has been done to develop rail transport. The Ekibastuz-Tselinograd Railroad has been electrified. Right now the Ekibastuz Railroad Terminal is the largest in the republic. Party organizations and collectives of enterprises of the Ekibastuz Railroad Terminal, in close collaboration with coal miners and power engineering workers, have promoted effective socialist competition for regularity in the shipment of fuel and the establishment of fuel reserves at electric-power stations, and this has been markedly effective in reducing idle railroad-car time during freight handling.

In brief, many deficiencies in organizing capital construction and in implementing plans for building GRES's have been overcome by the efforts of the oblast party organization and by laboring collectives. Nevertheless, tension at the

construction projects has not been eliminated, and this undoubtedly is caused by miscalculations in organizational work that was conducted primarily by the obkom and the gorkoms of the party. But there are also managerial derelictions. The fact is that various ministries and agencies display slowness in solving problems. For example, erection of the coal enterprises is causing serious anxiety. Thus, construction of the Vostochnyy Strip Coal Mine, which was started last year, lags behind the plan's deadlines. Its preliminary design still has not been approved. It is now at USSR Gosplan for review. It still is not clear what kind of mining and transporting equipment the strip mine will be equipped with. Nor have the orders for its manufacture been placed. The party obkom has repeatedly appealed to USSR Gosplan and the USSR Ministry of Coal Industry about this question, which still has not found positive solution.

No less serious is the problem of preserving the ecological equilibrium in the operating zone of the mighty Ekibastuz electric-power stations. And here is why. Each year a large amount of ash will go to the dump. Measures for using it are not contemplated at present. Yet the ash is a good construction material. These words are in the draft of the Basic Directions, in the part, "Protection of Nature": "Master deposits of useful minerals in more integrated fashion, without allowing them to be lost during mining or processing." In our view, they should be supplemented by the following statement: "Introduce more widely wastefree technology for production." What do we have in mind? It is possible, and necessary, to build, based upon the Ekibastuz GRES's, large enterprises for the output of cinder-silicate gravel and cinder-silicate brick.

The creation of the fuel and energy complex is the start of a principle for managing the economy that is qualitatively new for the oblast. Right now precise reference points have been set for the production activity of the enterprises. The main one for the oblast party organization is to provide for the dynamic and firm development of each subunit that makes up the complex.

As is known, there are in the provinces no unified economic organs that would answer for the development of large complexes as a whole. As a rule, the enterprises that operate here are subordinate to various ministries and agencies. Economic supervisors at times approach the solution of problems from parochial or bureaucratic points of view. Because of this, it seems to us that the draft of the Main Directions should, in the part, "Improvement of Control and Raising the Level of Management in All Elements of the Economy," state, "Do the necessary research on the creation of unified centers (soviets) for control of regional production complexes." In our opinion, this organ should be nondepartmental. It would be desirable to include in it representatives of Gosplan and of the various ministries and agencies. Its function would be to provide for a single scientific and technical policy for the regional complex, monitoring the execution of plans for construction, the integrated use of material resources and useful minerals, and the conduct of measures for raising production effectiveness and work quality.

Communists and workers of the oblast, who are closely rallying around the Leninist party, have promoted widely socialist competition for the successful fulfillment and overfulfillment of plans and commitments. They will gladden the motherland with new labor feats.

COPYRIGHT: Izdatel'stvo "Pravda", "Partiynaya zhizn'", 1981

11409

CSO: 1822

FUELS

WAYS OF IMPROVING USE OF NATURAL GAS REPORTED

Alma-Ata NARODNOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 11, 1980 signed to press 4 Nov 80 pp 41-42

[Article by S. Narembayev, chief of Kazakh Territorial Inspectorate of Gosgaznadzor]

[Text] The significance of natural gas as a fuel is generally known. Its fraction in the country's fuel balance increases with each year. Under these conditions meeting the ever-increasing needs for natural gas should be accomplished both by an increase of production and by increasing the efficiency of using it.

Extensive work has been conducted during the past few years at the republic's enterprises on organization of strict accounting of gas consumption, improving the technology of its utilization, replacement of obsolescent gas-burning devices and careful preparation of reserve fuel facilities.

For example, pulse cleaning of the heating surface of the utility boiler has been introduced, automatic regulation of gas combustion in agglomeration machines has been put into operation and heat-engineering tests of a slag-sublimation installation have been conducted at the Chimkent Lead Plant. More than 8 million m³ of gas have been saved because of this.

Two low-oxidation heating furnaces with calculated saving of 31,500 rubles annually have been introduced at the Alma-Ata Automotive Repair Association No 2. Investigations have been conducted on use of waste gas heat to heat the air required for combustion in furnaces and for heating buildings. The heat lost with waste gases was reduced by 16 percent.

Other positive examples can also be cited.

At the same time, as a check of the Kazakh Territorial Inspectorate of Gosgaznadzor [expansion unknown] showed, there is a number of significant deficiencies in the use of natural gas at many enterprises of the republic. Thus, 51 of 79 enterprises checked had no organizational and technical measures on gas economy. Approximately half of them are enterprises of the republic's Minpishcheprom [Ministry of the Food Industry].

The significant advantage of gas over other types of fuel, i.e., the possibility of automatic control of combustion processes, is still being utilized unsatisfactorily.

This automation is absent or is not operational at 63 enterprises (24 enterprises at Minpishcheprom, 8 each at Minpromstroymaterialov (Ministry of the Construction Materials Industry) and Mintyazhstroy (Ministry of Heavy Construction), 6 at Minlegprom (Ministry of Light Industry) and so on). There is no quality control of gas combustion at 49 enterprises.

Unfortunately, economical consumption of natural gas is still not followed everywhere. The ministries sometimes confirm overestimated norms of fuel consumption to their subdivisions compared to the technical level of the gas-utilizing equipment. Thus, these norms were overstated by 38 and 29 kg of comparison fuel per Gcal for the boiler plant of the Aktyubinsk Bus Fleet No 1 and the Gormolzavod (Municipal Milling Plant) and they were overestimated by 28 and 26 kg of comparison fuel per Gcal, respectively, for the Alma-Ata Fur Combine and the Dzhambul Brewery. There are similar occurrences at enterprises of the timber and woodworking industry, municipal housing administration and the construction materials industry of the republic.

It is known that the basis for economy and of all economics is strict accounting. However, rotary gas meters operate at many enterprises, despite the fact that the deadlines for state inspection of them expired long ago. Devices for keeping a record of the thermal energy used are generally absent at 40 enterprises.

Timely and high-quality implementation of adjusting operations on gas-utilizing equipment plays an important role in economical and efficient use of natural gas. These are primary starting-adjusting operations both on newly gassified units and those converted from other types of fuel and also repeated operational-regime tests of units.

Deficiencies in installation of monitoring and measuring devices, gas line systems and automatic regulation of the combustion process are determined during the starting-adjusting process and the quality of installation of gas-burning devices is monitored. Moreover, units are started up and they are tested in a complex manner, the optimum modes of gas combustion are determined, monitoring and measuring devices and automatic equipment are adjusted and at the same time the saving from fuel consumption achieved as a result of conducting starting-adjustment operations is calculated.

Analysis showed that the heat lost with waste gases was reduced by an average of 45 percent and the heat lost to the environment was reduced by 2.2 percent at 8 enterprises as a result of regime-adjusting operations. Boiler efficiency was increased by an average of 6.7 percent and the specific consumption of gas was reduced by 15 m³ per Gcal. However, regime-adjusting operations are not being conducted at 48 enterprises of the number checked, where 150 boiler units are operating. For this reason unproductive losses of 5,293,000 m³ of natural gas or 3.7 percent of the annual consumption were established in the 51 boiler units investigated.

The percentage of these losses reaches significant values at some enterprises (2.5 percent at the Aktyubinsk Brewery, 24 percent at the Chimkent Bakery No 3, 16 percent at the Kustanay EZhBI [Reinforced concrete and concrete products plant], 10 percent at the Dzhambul Bakery No 3, 9 percent at the Alma-Ata Brick Plant No 3 and so on).

A considerable amount of natural gas (more than 3 percent of the annual consumption) is burned unproductively in the fuel-using units of consumers. The main cause is underestimation of the importance of economizing on fuel-energy resources.

More than 800 units of equipment, of which approximately 500 units comprise boilers, have now been converted to natural gas in Kazakhstan. The volume of gas consumption has reached 5.7 billion m^3 without regard to Mangyshlaksakaya Oblast, where approximately 3 billion m^3 of gas is consumed.

These figures indicate that the republic must have specialized organization on complex starting-adjusting operations of gas-using units. Complex implementation of them through the efforts of a single organization would free the enterprises of the necessary concerns and search for adjusters of individual specialties, would create conditions for increasing the quality of operation and would mainly increase the efficiency of gas fuel utilization. The production-engineering enterprise Promenergogaz of the VNPO (All-Union Scientific Production Association) Soyuzpromgaz, Mingazprom (Ministry of the Gas Industry) of the USSR, is engaged in this matter on a country-wide scale. It has sections at Donetsk, Chelyabinsk, Gor'kiy and Frunze. Similar organizations have been created in almost all union republics and in those where the annual volume of gas consumption is considerably less than in Kazakhstan.

Moreover, industrial enterprises which have the engineering capabilities for this at their disposal must convert to other types of fuel during especially cold periods for complete satisfaction of the municipal-service needs and of the populace for gas. We are talking about creation of reserve fuel facilities provided by directive bodies at these enterprises. But, as a check showed, most of them do not have these capabilities at their disposal and construction of these facilities is being postponed from year to year. Specifically, we are talking about such large gas users as the cement plants at Chimkent and Sas-Tyube, the production associations Khimprom (Dzhambul) and Fosfor (Chimkent), the Santekhnizdelyiy plant (Chimkent), the Regional Boiler Plant No 1 of Minenergo (Ministry of Power and Electrification) of the Kazakh SSR (Chimkent) and the heating-boiler plants of Minzhilkomkhos (Ministry of Housing and Municipal Services) of the Kazakh SSR (Dzhambul and Chimkent).

As a whole, 8 of 18 enterprises where reserve fuel facilities are provided do not have them and expansion is required at the remaining enterprises. For this reason the enterprises are unable to convert to use of other types of fuel during sharp cold periods and gas shortages, which leads to interruptions in supply of the national economy and the populace with energy resources.

A no less important problem is efficient distribution of gas by consumers. The practice of the past few years shows that an average of 10.5 million m^3 of gas is delivered to the southern oblasts of Kazakhstan through the Bukhara-Tashkent-Chimkent-Dzhambul-Frunze-Alma-Ata gas pipeline during the heating season, while 10.8 million m^3 per day are delivered on some days, including 2.2 and 2.4 million m^3 , respectively, to Alma-Ata (the terminal point of the gas pipeline). However, the daily stocks of gas were established at 3 million m^3 for Alma-Ata during the third quarter of 1980, of which 2.2 million m^3 went to the electric power plant and the heating-boiler plant of the republic Minenergo. Naturally, this quantity cannot be delivered with regard to which the power engineering enterprises experienced an extremely difficult situation in timely supplementation of reserve fuels.

Hence, it follows that no more than 17 and 20 percent of the annual gas consumption, respectively, is feasible for the southern oblasts of the Kazakh SSR for the first and fourth quarters of the year for Minenergo enterprises prior to introduction of new capacities and expansion of the Bukhara-Tashkent--Alma-Ata gas pipeline. Subsequently, according to the established procedure for an object or fuel-using installation, authorization of Gosplan of the USSR must be obtained prior to the beginning of design work for the right to use gas as a fuel where the type of reserve fuel, equipment and also the deadline and volumes of consumption have been established.

The inspectorate of Gosgaznadzor monitors the presence of the indicated authorization of the directive body at the enterprise, without which connection of fuel-consuming installations to the gas networks is prohibited.

At the same time an analysis which we conducted shows that there are cases of non-conformity in the volumes of gas provided in the authorization with the actual capability of delivery over the main gas pipeline. Thus, according to data of the inspectorate, there are authorizations of Gosplan of the USSR for the beginning of 1980 with a volume of gas consumption in southern Kazakhstan for 5.8 billion m³ annually or 16 million m³ per day through the Bukhara-Tashkent--Alma-Ata gas pipeline. The excess over the actual technical capability of the main gas pipeline comprised 1.83 billion m³ or 46 percent.

Elimination of the indicated deficiencies in use of gas would facilitate to a significant degree fulfillment of the task of uninterrupted and reliable supply of natural gas to the national economy of the republic.

COPYRIGHT: "Narodnoye khozyaystvo Kazakhstana", 1980

6521

CSO: 1822

FUELS

URENGOY-MOSCOW GAS PIPELINE REPORT

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 20 Jan 81 p 1

[Reports by L. Podlasov, section chief of the Komi Oblast Party Committee, Syktyvkar, and S. Gur'yashov, chief of the production-management administration of Glavsibtruboprovodstroy /Main Directorate for Siberian Pipeline Construction/, Tyumen': "What Is Slowing the Work Rates"7]

[Text7 The path of the new gas pipeline section from Urengoy to the Moscow Ring Road runs down from the western slope of the Ural Mountains and stretches nearly 600 kilometers across the Komi ASSR. How is the pledge to complete work by the 23rd of February coming along?

The situation is tense. Why? In the republic the pipeline crosses more than 100 kilometers of swamps. And the swamps still are not frozen over. It is necessary to give nature a boost and in some areas to destroy the snow cover and to search for other ways to do the job.

The leading organizations are setting the example. For example, the fifth administration of Soyuzgazspetsstroy /All-Union Special Construction Trust of the Gas Industry/, the first administration of the Shchekingastroy /Shchekino Construction Trust of the Gas Industry/, and SU-14 /construction administration/ of Mosgazprovodstroy /Moscow Gas Pipeline Construction Trust/ have fully completed basic work on their section. High work rates have been achieved in subelements of the Moscow Welding and Installation Trust, especially on the sixth section of the sixth administration. In December the installers on this section prepared 27 kilometers of pipe, 6 more than the assignment, for insulation and laying.

However, on the whole the work rates still are not satisfactory: they still are not achieving the 10-kilometer daily addition to the line. For example, on the section of the Omsknefteprovodstroy /Omsk Oil Pipeline Construction Trust/ they have completed only slightly more than 20 percent of the work.

The project is under the constant supervision of the Oblast Party Committee and the city and rayon Party organizations; the purpose of this close supervision is to maximize the use of reserves. There are

doubts but that we will succeed in doing everything that we can. But we are concerned about the problems over which we have little control.

The biggest threat has cropped up at three construction sites of compressor stations, particularly at the Vuktyl compressor station. The unit is to be put into operation in February: without it the flow of gas will not reach the Moscow Ring Road. But out of a cost of 8 million rubles here, only half that amount has been assimilated. It is difficult to criticize the construction workers of Vuktylstroy [Vuktyl Construction Trust] for anything. Equipment suppliers literally have them at their mercy. For example, the foundations for the heavy equipment, including those that go beneath the turbines, have long been ready. But the Leningrad Metal Plant Association has shipped only three of the six turbounits needed at a minimum to start up the station, even though the delivery was planned for the third quarter of last year.

Even more work remains to be done at two other stations, one at Sindor and the other at Urdom. Largely because the delivery of five turbines from Uzhgorod has been disrupted, the production associations Salavat-neftemash [Salavat Petroleum Machine Building Plant] and the Baku Experimental-Machine Plant of the Ministry of the Gas Industry are delaying the shipment of various equipment. The installers have long been awaiting various sizes of cranes from Soyuzgazkomplekt [All-Union Gas Equipment Assembly Association].

Will Urengoy gas reach Moscow on schedule? This now depends mostly upon the suppliers.

[End of report by L. Podlasov]

Completion of insulation and laying operations for the week 5 - 11 January

	Week's assignment, in km	Amount fulfilled	Work remaining to do
Tyumen' Oblast	48	42.8	259.2
Komi ASSR	35	13.1	209.9
Arkhangel'sk Oblast	3	1.9	8.1
Vologda Oblast	33	14.4	223.6
Yaroslavl' Oblast	40	9.3	260.7
Vladimir Oblast	4	.5	17.5
Moscow Oblast	8	-	155
Total for the project	171	82	1,134

As the summary shows, they still have not managed to attain the assigned work rate. Continuing warm weather, heavy snowfalls and drifts are complicating the freezing of the swamps and the preparation of passage ways. The builders have been forced to divert equipment from ground clearing to keeping roads clear. Still, inadequate steps have been

taken to make full use of capabilities in the Komi ASSR and in Vologda, Yaroslavl' and Moscow oblasts.

The construction workers await specific and urgent assistance from the plants - the suppliers of equipment and motor vehicles, particularly the Kovrov excavator plant, the Onega and Rubatovsk plants that manufacture hauling tractors. The main administrations and trusts of the Ministry for the Construction of Enterprises for the Oil and Gas Industry must take additional steps to freeze the swamps and to fix the flow construction. Serious attention must now be given to the state of affairs in complicated, technological units of the gas pipeline - water crossings and road crossings and the points where the compressor stations are plugged into the pipeline, and so forth. With the help of local organs it is very important to provide uninterrupted access along the line for the forced shipment of pipe and cargoes.

/Report by S. Gur'yashov/

Work on the pipeline in Tyumen' Oblast is being performed by three basic subelements of our main administration: the trusts Urengoytruboprovodstroy /Urengoy Pipeline Construction Trust/, Severtruboprovodstroy /Northern Pipeline Construction Trust/ and Priob'truboprovodstroy /Ob' River Region Pipeline Construction Trust/. The multikilometer taiga corridor is broken down into technological flows. There are four of these in the Ob' River region. In two of them the basic work has been completed and they are now getting ready to purge and test the pipeline. The section where the most activity is underway is between the 298th and 356th kilometers.

The settlement of Ozerney rises early. A quick breakfast and the brigade of welders from SMU-25 /construction and installation administration/, headed up by V. Zhuravlev, head for the line. In January the brigade has to connect 35 kilometers of pipe in one section /nitka/. This is not an easy task but the collective can do it: equipment helps. The mobile power unit from the mobile electric power stations operates in two shifts and permits four teams of welders to do their job at the same time. The pipe adheres to the 36-meter section in literally minutes. Within one 24-hour period this expanded brigade "steps" at a high rate of speed to the one and half kilometers - nearly twice as much.

The ground clearing brigades of SU-0 are working very diligently; their task is to prepare the work front for the insulation and laying columns. The team members work smoothly. Here is an example: immediately behind the ground clearing workers and welders comes the insulation and laying brigade of V. Sidorkin, which is carrying out the finishing operations: an entire column of machines. The first to come is the unit that heats the pipe. It is followed by the mechanical brushes of the cleaning machine. Then a set of mechanisms winds the insulation and protective covering. Soon on the next section the pipe is secured with anchors and the bulldozer operator fills the ditch. An impressive picture! This is a modern construction project, where the highest level of labor mechanization has been achieved.

But in the evening when the specialists of the main administration draw a red line on a map of the pipeline to show the kilometers that have been completed, we see that what we have done is still less than had been planned. And one of the main reasons for this is that we do not have the equipment to do the job. We cannot fully satisfy the orders of the subelement managers for bulldozers, T-100 tractors, single-bucket excavators and watch vehicles.

Workers of industry and planning organs have not overlooked our needs. Thus, the Kovrov Excavator Plant shipped 35 of 90 machines for the first quarter plan ahead of schedule. Our thanks to the Kovrov machine builders! Now we have a favor to ask of the workers at the Chelyabinsk Plant imeni Kolyushchenko, who have been asked to manufacture 98 bulldozers for the pipeline that is under construction: send them to us as quickly as possible!

8927

CSO: 1822

FUELS

CONSTRUCTION BEGUN OF URENGOY-PETROVSK GAS PIPELINE

Moscow PRAVDA in Russian 17 Nov 80 p 1

/Article by B. L'vov: "The Construction Projects on the Map: The Fifth Mainline"7

/Text7 Until recently this mainline existed only on paper. However, several days ago the first dozen or so kilometers of pipe for the new pipeline were welded and placed in the ground. This took place on two sectors at the same time. The flashing of the electric welding, which lit the sky simultaneously at the 900th and the 1,900th kilometers, signaled the start of the construction of the new, large pipeline track from Urengoy through Peregrebnoye, Nizhnyaya Tura, Gornazavodsk to Petrovsk.

Urengoy... This gigantic deposit is now becoming the source of the fifth river of natural gas. And it is not the last. But it is possible that the fifth pipeline will be the most complicated to build.

The length of the new gas pipeline, according to the deputy chief of the main production and management administration of the Ministry for the Construction of Enterprises for the Petroleum and Gas Industry V. Stepanov, is 2,740 kilometers. Of this number 1,512 kilometers extend through forests, 224 kilometers through inaccessible swamps and 240 pass through mountainous regions. The pipeline will cross 136 railroads and highways and 13 major rivers. Only a small portion of the pipeline, from Urengoy to the Ob' River, will parallel an existing pipeline from Urengoy thru Nadym and Punga. Basically the construction workers will have to work in areas where, without exaggeration, man has never been.

They face an awesome task. In time other pipelines will be laid parallel to the new pipeline: Urengoy to Yelets, and Urengoy to Novopskov. The amount of preparation work will necessarily be increased; it is necessary to think about the collectives that will come later. In addition within the framework of creating the unified automated gas supply system for the Soviet Union it is necessary to equip the gas pipeline-connectors from the new pipeline to presently existing ones, the Nizhnyaya Tura-Perm'-Kazan'-Gor'kiy-Orenburg-Zainsk and the Saratov to Gor'kiy.

But the most difficult work falls to the underground construction workers of the Ministry for the Construction of Enterprises for the Petroleum and Gas Industry. For nearly 100 kilometers of the pipeline will be under water. The length of the Ob' crossing will be 14 kilometers, the Nadym River crossing is 10 kilometers, and 7.8 kilometers of "pipe" will reach along the bottom of the Sok River and 5.6 kilometers along the bottom of the Volga River.

For a distance of 950 kilometers the new gas pipeline will cross excellent pasture land of Orenburg, Kuybyshev, Ul'yanovsk, Saratov and other oblasts. But not a single hectare of land will be lost to agricultural crops. The builders will carefully collect the rich layer of soil and save it in special places until the work is completed. Later, when the pipe is put into the ground, they will put it back where it came from. The recultivation of the soil is an important part of the technology for laying a pipeline. Equipment is allocated especially for these purposes; and the necessary costs are projected.

In general the ecological problems that arise will be solved at the new pipeline at a higher level than before. At all 25 compressor stations the gas that is to be transported is to be pre-cooled.

The throughput capacity of the new gas pipeline is 32 billion cubic meters per year. The work is to be completed in 1982. However, the construction workers will do everything possible to ensure that the river of gas, just as many other presently operating pipelines, is put into operation ahead of schedule.

8927

CSO: 1822

FUELS

REPORT ON CONSTRUCTION OF URENGOY-MOSCOW GAS PIPELINE

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 6 Jan 81 p 1

[Article: "Urengoy's Natural Gas to Moscow"]

[Text] The first deputy minister for the Construction of Enterprises for the Petroleum and Gas Industry, Yu. Batalin, reports on the work on the gas pipeline that comes from Urengoy, through Ukhta and Gryazovets to the Moscow Ring Road.

General Secretary of the CPSU Central Committee and Chairman of the Presidium of the USSR Supreme Soviet Comrade L. I. Brezhnev congratulated the workers of the Ministry for the Construction of Enterprises for the Petroleum and Gas Industry on New Year's Eve for fulfilling the five-year plan ahead of schedule. Within five years more than 50,000 kilometers of pipelines for transporting petroleum, gas and their by-products were put into operation. The length of distant underground lines exceeded 200,000 kilometers.

In the Eleventh Five-Year Plan the amount of pipeline construction will increase 1.5-fold. The outstanding construction project for the first year of the new five-year plan is the pipeline that runs from Urengoy through Ukhta, Gryazovets to the ring gas pipeline in Moscow Oblast (KGM0). The news correspondent at the press center of the Ministry for the Construction of Enterprises for the Petroleum and Gas Industry met with the First Deputy Minister, Yu. P. Batalin and asked him to comment on the status and progress of work on this project.

"The new gas pipeline artery is the fifth coming out of Urengoy. Its total length is 2,800 kilometers and it passes through Tyumen' Oblast, the Komi ASSR, Arkhangel'sk, Vologda, Yaroslavl', Vladimir and Moscow oblasts. Once it is completed it will carry 100 million cubic meters of natural gas every 24 hours. This increases a guaranteed supply of carbonaceous raw material and fuel for the industrial areas of the European section of the USSR and of the CECA member nations. The completion of the new transcontinental gas pipeline also makes it possible to supply the planned for the first year of the five-year plan significant increase in the extraction and transport of natural gas ahead of schedule. How is the work progressing?

As of today 2,000 kilometers of pipe have been welded into place and more than 1,600 kilometers of pipe have been insulated and laid. Of the remaining 1,200 kilometers nearly 500 fall within the sector from Gryazovets to the KGMO. Should the construction work fall behind schedule on this section, the gas, which will come from the Urengoy deposit, will be blocked, as the workers put it.

In view of the importance of this task, the gas pipeline builders have pledged to complete all basic work on the largest fuel-energy system by the start of the 26th Party Congress so that by the 23rd of February - the day that the Congress convenes - natural gas from Urengoy will reach the capitol.

In order to fulfill these pledges it is necessary, taking into consideration all subsequent start-up and adjust work, to complete all linear work on the pipeline - more than 1,200 kilometers of pipeline - in January. If you consider that the highest productivity in the sector was previously somewhat more than 500 kilometers of pipeline per month, then you can appreciate the complexity of the task that lies before them. While they are working on the linear portion of the pipeline, they are also working on the compressor stations, which have a total capacity of 1.5 million kilowatts. Housing and cultural and service facilities are also being constructed.

The difficulties are made more so by the fact that the gas pipeline crosses various natural and climatic zones with very complex hydrogeological conditions: polar tundra and the severe northern Ural Mountains, vast forests and swamps. More than 700 rivers and other water barriers lie in the path of the builders.

Nonetheless, the ministry and the collectives working on the gas pipeline are confident that they will manage to fulfill the pledges that they made in honor of the 26th Party Congress. Concentrated on the project are the shock forces of such large main administrations and associations as Glavsibtruboprovodstroy /Main Administration for Pipe Laying and Pipeline Construction in Siberia/, Glavvostoktruboprovodstroy /Main Administration for Pipe Laying and Pipeline Construction in the East/, Glavkomigazneftestroy /Main Administration for the Construction of Oil and Gas Pipelines in Komi ASSR/, Glavtruboprovodstroy /Main Administration for Pipe Laying and Pipeline Construction/, Glavukrneftgazstroy /Main Administration for the Construction of Oil and Gas Pipelines in the Ukraine/, Glavyuzhtruboprovodstroy /Main Administration for Pipe Laying and Pipeline Construction in the South/, Soyuzintergazstroy /All-union Association for the Construction of Enterprises for the Gas Industry and International Projects/, Soyuzgazpromstroy /All-Union Association for the Construction of Enterprises for the Gas Industry/ and Tatneftestroy /Directorate for the Construction of Enterprises for the Petroleum industry in the Tatar ASSR/. The main thing now is to speed up the relocation of the construction and installation subelements on the pipeline and the sites of the compressor stations.

On the construction project, which extends from Urengoy to just outside Moscow, every collective is looking for ways to speed up the work. Here is but one example. According to the plan it is necessary to put three compressor stations into operation, at Kazym, Vuktyl and Urdom, in

February. However, the collective of the Severgazstroy /Administration for the Construction of Enterprises for the Gas Industry in the North/ trust has come up with a counter, more rigid plan: in cooperation with the operations workers in addition to these stations they will put the Nadym compressor station into operation in honor of the 26th Party Congress. Naturally, this increases the possibility of transporting gas. The collective of the Soyuzgazpromstroy association serves as an example of the leading organizations. The Nyuksenitsa compressor station, scheduled for completion in the second quarter, will also be put into operation in February. This same schedule has been set for the completion of the Pereyaslavl'skaya compressor station by the collective of the Tatneftstroy association and of the Pripolyarnaya compressor station by the collective of Sibkomplektomontazh /Siberian Assembly and Installation Administration/.

Thus, there is a real possibility that eight compressor stations will be put into operation ahead of schedule in the first quarter to make it possible to supply the amount of gas that was projected for the fourth quarter of the first year of the Eleventh Five-Year Plan.

Less than one and a half months remain until the symbolic flame comes to life at the gates of the capitol. But the amount of work remaining to be done is impressive. The situation at the pipeline project is best characterized in this table.

Table

	Length of line (in kilometers)	Remaining for January (km)	Distance to be completed every 24 hrs
Tyumen' Oblast	1,076	302	13
Komi ASSR	581	223	10
Arkhangel's Oblast	203	10	1 (ending 10 Jan)
Vologda Oblast	472	238	10
Yaroslavl' Oblast	295	270	12
Vladimir Oblast	18	18	1
Moscow Oblast	155	155	7

Thus, every 24 hours 54 kilometers of the pipeline must be completed. Unfortunately, none of the main administrations has yet achieved such a work rate. One of the reasons for this is that the weather has been unfavorable. A mild winter has shortened the already short winter construction season. Even in the coldest weather, when the swamps and wet areas freeze over, it is not easy to cover 1,000 kilometers in a month. It is precisely this circumstance that makes it necessary to maximize the close cooperation of all participants in the project - from the customer to the plants which supply the equipment. We hope that the construction workers, operations workers, railroad workers, pilots, truck drivers and others will actively participate in the competition according to the principle of the "workers' relay race".

The Party oblast committees and the executive committees of the councils of workers' deputies in the oblasts through which the pipeline passes have made sound decisions to strengthen leadership assistance to the project - in cutting trees, laying out roads, allocating motor transport and initiating ideological and educational work. The builders gratefully accept this help and hope that it will be increased.

The construction of the Urengoy to Moscow gas pipeline and its early completion by the start of the 26th Party Congress is a matter of great importance to the state. For this reason all questions bearing on this project must be solved very carefully."

From the editors: With Yu. Batalin's report the editors begin a calendar of the shock construction project; each week on Tuesday this newspaper will publish information about the progress of work on the pipeline.

8927

CSO: 1822

PURLS

PROGRESS REPORT ON URENGOY-MOSCOW GAS PIPELINE

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 13 Jan 81 p 1

/Article: "Calendar of a Shock Construction Project"7

/Text7

Table

Work fulfillment in laying gas pipeline covering 12 - 18 January

	Assignment for the week, in km	Fulfilled	Remaining to be done
Tyumen' Oblast	70	45	214
Komi ASSR	50	23	187
Arkhangel'sk Oblast	6.4	7.1	1.0
Vologda Oblast	51	11.4	212
Yaroslavl' Oblast	40	15	246
Vladimir Oblast	4	-	17.5
Moscow Oblast	8	.5	109
Total for the project	229	103	986

A period of very bad roads on the sector from the Polar Ural Mountains to Moscow (1,676 kilometers), connected with a long thaw, continues to complicate work on the gas pipeline. In spite of this, over the past week with the arrival of new equipment the workers have managed to complete insulation and pipe laying on 21 kilometers more of the pipeline than last week. However, the poor weather conditions are slowing the construction. The collectives, which are laying the pipeline in the Komi ASSR and in the Vologda and Yaroslavl' oblasts, are taking urgent steps: they are laying log roads and getting rid of soil in the swampy areas.

Unfortunately, not all oblast and rayon organizations are actively participating in the "workers' relay race". In the Rostov Rayon of Yaroslavl' Oblast, for example, they are doing a poor job of sharing transport for carrying workers to the pipeline work site, of providing

housing and organizing meals for the workers. In Vologda Oblast the local timber suppliers have actually been withdrawn from clearing the path of the pipeline. Control over the cargo service of the Ministry of the Railways is inadequate to ensure the delivery of equipment needed by the mechanized columns.

In this situation the timely delivery of motor transport vehicles to the construction project is of utmost importance. The builders have long been waiting for the RSFSR Ministry of Motor Transport to send additional motor vehicles to Tyumen' Oblast (250), to the Komi ASSR, Vologda and Yaroslavl' Oblast (60 dumptrucks each).

8927

CSO: 1822

FUELS

USE OF ADDITIVES INCREASES OIL WELL OUTPUT

Baku VYSHKA in Russian 21 Feb 81 p 3

[Article by M. Abasov, academician and secretary of the department of earth sciences of the republic Academy of Sciences: "How to Increase the Earth's Output"]

[Text] One of the most important tasks advanced by the draft of the CPSU Central Committee for the 26th Party Congress for the workers of the petroleum industry, scientific research and planning organizations is to make the maximum use of the geological reserves of oil and gas. Even the fields that have been worked from the time they were first discovered by the advanced method of maintaining formation pressure through water injection, still hold a considerable quantity of oil.

The republic's scientific and production organizations have done extensive work in recent years to develop methods and technology for intensifying extraction and improving the oil output of the beds. In particular, the Institute of Problems of Deep Oil and Gas Fields of the Azerbaijan SSR Academy of Sciences jointly with the All-Union Scientific Research Technological Institute to Produce and Process Low-Molecular Olefins (VNIIOlefinov) created a new method for artificial modification of the bed in order to increase its oil output. It successfully combines the methods of thermal modification and other techniques that somewhat increase the water viscosity. The simultaneous reduction in oil viscosity that results provides an additional increase in its displacement coefficient as compared to the heat carriers by a minimum of 5-6%.

The scientists have made a very effective recommendation. It calls for addition of roughly 0.05% aniline sulfate to the water injected into the bed when the field is being worked. Studies have shown that this modification of the formation improves the oil-wash-out capacity of water, and raises the oil displacement coefficient by 6-8%. It is important to stress here that the use of aniline sulfate also permits sea water to be employed.

Laboratory experiments conducted by the Institute of Problems of Deep Oil and Gas Fields jointly with the Institute of Botany of the republic Academy of Sciences have proved the expediency of adding a small quantity of so-called saponins to the water injected into the bed. They reduce the surface tension on the oil interface 2-2.5-fold and increase the displacement coefficient by 4-5%. It should be noted that there is an enormous base for saponin production in Azerbaijan since many plants that are grown in the republic are very rich in these substances.

Promising results have been obtained in experiments to inject concentrated alkaline solutions. A study was made of the influence of geological factors, physical properties of oil, formation water and rocks, alkaline concentration in the solution, temperature, degree of flooding of the bed, etc. on the efficiency of this process. Together with the work of other Soviet and foreign scientists, these studies provided a clear idea about the mechanism of this new method of increasing oil output which is very promising for Azerbaijan. They also revealed the nature of the fields where it can yield the greatest results.

The republic's new trend of searching for more efficient methods of extracting oil from the beds and working the critical well zone deserves especial attention. This is the use of oil refining and chemical wastes, in particular, their acid effluent, for these purposes. They presently do not have specialized application. They are wastes whose recovery and treatment are an especially complicated scientific and technical problem and require high capital expenditures. At the same time, aqueous solutions of treatment wastes from certain oils displace incomparably more oil than water following their treatment with alkali. This has been particularly proved by research done by colleagues from the Institute of Problems of Deep Oil and Gas Fields, the Institute of Polytechnical and Petrochemical Processes, and the 22nd CPSU Congress plant. By adding small quantities of treatment wastes from certain oils to the water to be injected into the bed, one can drastically diminish the surface tension on the "oil-water" interface and improve the oil-wash-out properties of the water. They are not adsorbed very much on the rock surfaces and do not yield a precipitate. There is a 10-15% increase in the coefficient of oil displacement.

Aqueous solutions of sulfuric acid treatment wastes from crude aromatic fractions in the production of pyrobenzol and petroleum solvent have proved to be a good water-insulating material. They decrease the water permeability of rocks in the critical well zone by 2-3-fold while increasing the oil permeability. The experimental-industrial treatment of the critical zone in certain wells with these wastes by the oil and gas extracting administrations "Leninft'," "Ordzhonikidzeneft'," "Artemneftegaz" and imeni N. Narimanov increased the yield almost 2-3-fold.

The so-called ASSB proved to be promising for treatment of the critical bed zone in order to raise the oil output and reduce the water content in the well product. Its high efficiency was proved by experimental-industrial tests in the oil and gas extracting administration "Leninft'." The use of this reagent that was studied jointly with the Institute of Chemistry of Additives increased the oil output in the wells 1.5-2.5-fold. The quantity of water that was extracted with the oil was diminished by 20-50%.

The use of polymer solutions for flooding purposes and for selective isolation of water inflow in producing wells can produce a high yield. About 10 wells in the 26 Baku Commissars Oil and Gas Extracting Administration were treated with a polymer that was synthesized in the VNIIolefinov. It yielded very promising results. However the shortage of polymers, and the necessary reagents in general is a serious obstacle to their extensive introduction.

The Institute of Petrochemical Processes and the Institute of the Chemistry of Additives of the republic Academy of Sciences are conducting very interesting work to formulate methods of reducing residual oil reserves. These include the synthesis and production of new, highly effective surface-active substances that have high

surface activity and oil displacement ability, the synthesis of nitrogen-containing oil and water soluble SAS (surface-active substances), and much more.

All that has been mentioned about the work done by the associations "Azneft'" and "Kaspmorneftegasprom" in the 10th Five-Year Plan indicates that the republic has created a good basis for broad introduction of the latest methods for intensification of extraction and increase in oil output of the beds. However, as was correctly noted in last December's meeting of the active party and economic members of Azerbaijan, our available potentialities are clearly still underutilized. At the same time we are not making a very active search for basically new methods of increasing oil output that could encompass the greatest possible number of oil beds with different physical and geological conditions. It is important to do everything possible to accelerate the accumulation of oil reserves in the republic. This will clearly define the methods for modifying each oil deposit separately, and the field as a whole.

The Institute of Problems of Deep Oil and Gas Fields is presently finishing compilation of a complex target program on the scientific and technical problem "Increase in Bed Oil Output and Intensification of Oil Extraction in the Azerbaijan SSR." This program should promote the successful realization of the plans. However, the efficient introduction of new developments is often complicated by the lack of a sufficient quantity of special equipment and chemical reagents. Industry does not yet even manufacture certain types of equipment. This aspect requires the most serious attention. This is also important because reliable calculations of the additional oil extraction resulting from the use of new methods for increasing oil output of the beds can only be made after the real material and technical supply has been pinpointed.

In our opinion, the time has come to examine the network and structure of scientific institutions associated with the oil industry that have formed in Baku for a more efficient use of the scientific forces and material resources. This solution, in particular would be promoted if the suggestions made by the commission of the Azerbaijan Communist Party Central Committee were implemented. They suggest concentrating scientific research work in the field of new methods for increasing oil output in one scientific center.

The successful solution to this problem also makes it urgent to set up an experimental base in the Academy of Sciences that is equipped with the latest work in equipment. This base would particularly guarantee a transition from laboratory experiments to semi-industrial tests. The expenditures for setting up this base can be warranted in the shortest time.

It also seems to us that the effective implementation of measures to increase the oil output of the beds and introduction of secondary and tertiary methods of extraction intensification require an agency that has administrative rights.

For example, the methods for improving oil output that have been developed in the scientific institutions should be active at the enterprises of the republic's oil and gas industry. It is consequently necessary to solve a whole series of questions of correlating the newly created methods with the real production conditions. It is particularly necessary to study the effect of different chemical reagent additives on the commercial properties of the oil extracted with them, and to evaluate their effect on the oil refining process. It is no less important to study the effect

of chemical reagents on corrosion and wear of oil field equipment. It is necessary throughout to consider the effect of all the factors on the environment, meaning environmental protection which is a topical problem. These and a whole series of other tasks must be implemented by the appropriate scientific organizations by the commission of this agency. It must play just as large a role in coordinating with the associations "Azneft'" and "Kaspmorneftegazprom" questions of isolating facilities for experimental-industrial tests of new methods to extract oil from beds, etc.

The production engineers can and must give the scientific organizations a lot of help in realizing their developments. It is no secret that the fate of any innovation at the industrial verification stage depends on the thoroughness and sequence of conducting the operations and field studies stipulated by them in the draft. Only high quality work can either arm the oil workers with a new and progressive method, or provide substantiated and timely prevention of expenditures of time and resources for unpromising developments.

The task set by the party to increase the oil output of beds is a common task of both the oil scientists and the oil production engineers. It can only be successfully solved by joint, energetic efforts.

9035

CSO: 1822

FUELS

SAFETY RULES LISTED FOR SHATLYK GAS MAIN

Ashkhabad TURKMENSKAYA ISKRA in Russian 4 Feb 81 p 4

[Article by the production association "Shatlykgazdobycha" of "Turkmentorgreklama":
"Attention: Gas Main!"]

[Text] The Shatlyk line-production administration of gas mains of the production association "Shatlykgazdobycha" is informing all the heads of the construction organizations, institutions, chairmen of the kolkhozes and directors of the sovkhoses on whose land the high pressure gas main with 55 atm. Mayskoye-Ashkhabad-Bezmein passes that the transported gas is explosive and flammable. Any mechanical damage to the pipeline can cause explosion and fire resulting in victims.

In order to prevent damages to the gas main, it is necessary to know that a protected zone of 150 meters has been set on both sides of the gas pipeline.

Order of Working in the Protected Zone

For reliable and safe operation of the gas pipeline, the Shatlyk line-production administration of gas mains has worked out instructions for safety measures. They are to be used during agricultural work. The administration offers the instructions for resolution by the rayon or municipal ispolkom of the soviet of people's deputies. They include:

reinforced concrete columns with warning signs are installed every kilometer to secure the gas pipeline route;

the land users retain possession of the land in the protected zone, and can be used by them for agricultural needs.

It is forbidden in the gas pipeline protected zone:

to erect buildings and structures;

to do any kind of construction, installation, earth, drilling and blasting and mining work;

to set up field housing for machine operators for the period of agricultural work;

to set up shooting ranges, and warehouses of different construction, fuel and lubricant and other materials;

to set up pens for cattle, field machines, transportation vehicles or permit gathering of people;

to erect housing structures of any type on the sections set aside for individual and collective planting of gardens;

to cross the gas pipeline route except for the places set aside for crossings;

to build fires and burn dry grass;

to create artificial water barricades, to cast anchor, set up moorages, beaches, to set aside fishing areas, and conduct dredging and digging operations on the gas pipeline junctions.

Written permission of the Shatlyk line-production administration of gas mains is required for all types of construction work in the protected zone and the run-off zone of the gas pipeline (making irrigation ditches, trenches, laying cable, pipelines and other types of earth-moving work).

Work in the run-off zone must only be done in the presence of a representative of SHLPUMG [Shatlyk line-production administration of gas mains].

The individuals who permit violations of the regulations for working in the protected zone and run-off zone of the gas pipeline are legally responsible.

Comrades in charge, foremen, excavators, bulldozer operators, machine operators and leaders of the transportation brigades, kolchozes and sovkhozes! Do not forget that it is forbidden to conduct excavation operations by a mechanized method in the protected zone of the gas main. This could damage the underground gas pipelines!

The underground gas pipelines are designated by columns every kilometer.

REMEMBER that during the gas pipeline operation since 1969, the depth of the lines was reduced after agricultural work. It is presently less than 0.8-1.5 from the planned ground surface!

If a gas leak to the surface is found on the gas pipeline route, immediately report it to the Shatlyk line-production administration of gas mains of the association "Shatlykgazdobycha."

Drivers of Excavating Machines!

The foremen, men in charge and brigade foremen are required to have written permission of the enterprise that operates the gas pipeline for excavation work. Pay attention to the warning signs and columns that mark the gas main route.

Address all questions on excavation work to the Shatlyk line-production administration of gas mains (SHLPUMG) at: Maiyyskaya Oblast, Sakar-Chaginskiy Rayon, Shatlyk settlement, SHLPUMG, telephone numbers: 3-61 and 3-69; 52-82 in Mary; 5-51-81 and 5-59-64 (dispatcher) in Ashkhabad.

FUELS

CONVERSION OF TRUCKS TO NATURAL GAS IS URGED

Moscow IZVESTIYA in Russian 9 Dec 80 p 3

[Article by V. Vukovich, special correspondent of IZVESTIYA: "Trucks Do Not Need Gasoline If Their Engines Are Adapted to Run on Natural Gas"]

[Text] Although this filling station in L'vov is the only one of its kind in the Ukraine, neither its address nor telephone number are in the city directory. Cars drive up to it rarely, usually old makes. There was a time when it was lively.

I will not keep the reader guessing long and will say that the station is connected straight to a gas pipeline. It takes from it the same methane that burns with blue tongues of flame on the burners in our kitchens. Using compressors, the gas is compressed to 300 atmospheres and supplied as motor fuel to cars that have cylinders under their hoods.

We have to turn to a more than 20-year-old story when the plant with the surprising name "Avtogaz" appeared in L'vov. It was under the then republic ministry of automobile transportation and highways. It had four gas filling stations. Three of them were reconstructed. Many transportation services of the city used the colorless fuel. At that time, the automotive plants in Moscow and Gor'kiy were producing cars that were adapted to run on compressed gas.

There was also an "Avtogaz" plant in Kiev. It had more stations to fill cars with compressed gas than in L'vov. Later they were constructed in several more Ukrainian cities. Then the institutes were involved in problems of perfecting the operation of the gas-cylinder transportation. The plants manufactured compressors for the stations, as well as cylinders, reducers, carburetors and other equipment for the cars. The scope of the new idea expanded. Experience showed that converting the cars to the colorless fuel was an economically advantageous step. No less important was the fact that it freed the air basins of the packed cities of harmful emissions.

It seemed that if this continued, in the near future the newcomer from the earth's depths, transported on pipes to different ends of the country, would become a serious competitor to gasoline. But after a certain time, the interest in methane declined. The filling stations were closed. By some miracle one station was maintained in L'vov. It was given to the automobile and electric repair plant of the Ukrainian SSR Ministry of Automobile Transportation.

I tried to find out why the attitude towards gaseous fuel had cooled. There were different answers. The pessimists saw an artificial reduction in the carrying

capacity of the car because of the cylinders. There was also the opinion: was it necessary to waste high-alloy steel on the cylinders in order to save a kopeck? The majority of those questioned give the following reason for the cool attitude towards methane: gasoline began to spread because manufacture of trucks capable of using compressed gas was halted. The director of the L'vov automobile and electric repair plant, previously the assistant machine operator at one of the gas filling stations, A. Perevertaylov, agrees.

I asked him whether his station services many cars today?

"The main consumer is the service station of the L'vov railroad administration. Our ministry's services send out about two dozen "oldies." With this situation the station could be closed, but I have to admit that we could not bring ourselves to do so. There is interest even now in the underground fuel. Car owners come to us and ask us to convert their gasoline cars. We would do so with pleasure, but we cannot get the cylinders and reducers anywhere. No one manufactures them now."

How many years have passed since the "Avtogaz" plants appeared, later closed, and still the admirers of methane have not switched. There are many of them in the service station of railroad workers. Its head, N. Kalashnikov proved to be a loquacious narrator.

"We have almost 80 trucks running on methane. It is true that they are primarily ancient models. Thanks to diligent care, all of them continue to operate well. You yourself know that the funds for gasoline are not generous. When we get new "ZILs" or "GAZs" we hang the cylinders under the hoods ourselves. Where do we get them from? We guard like an incredible valuable what remains from obsolete machines, and we hunt on the side. It is the same with reducers. We remake the carburetors. In short, we are engaged in technical independent action."

"How can you explain your attachment to compressed fuel?"

"None of the experienced drivers would agree to switch to gasoline for anything. The secret is not in habit. The engine runs more quietly on gas. This means the repair life is increased. In frosts, the cylinder trucks go out on the road faster. A fairly simple burner warms up the engine crankcase, and it is cranked by the starter."

"This would be very useful to the drivers in Siberia," I noted.

"Now let us do some simple arithmetic. Today's four-ton "ZIL" needs 32 liters of gasoline for a 100 kilometers with a load. This costs 4 rubles 80 kopecks. The cost of compressed methane is 1 ruble 82 kopecks. The saving is 2 rubles 98 kopecks. Is this not profitable?"

"You have computed that the gas-cylinder machines of the service station covered 2.2 million kilometers this year. How much did they save you?"

"It would have taken 720,000 liters of gasoline for the same distance. We paid 62,000 rubles less for the compressed gas."

"As I understand it, this sum decreased the net cost of the shipments?"

"Quite true," confirmed N. Kalashnikov. He continued, "We generally would have gained even more if there were filling stations like the one in L'vov, in other

"Quite true," confirmed N. Kalashnikov. He continued, "We generally would have gained even more if there were filling stations like the one in L'vov, in other places. On return trips, if they are long, the drivers waste gasoline."

There is a lot of sense in the last words of the service station director. It can be added that the actual construction and filling of the L'vov gas filling station are not so expensive. According to bookkeeping data, it justified itself in the very first years of operation. There is also no problem of where to put the stations. Pipelines for transporting natural gas criss-cross the Ukraine. Just select the place with regard for the busy traffic, erect a modest building for the station on it, install compressors and the filling station is ready. As for the mass fabrication of cylinders for the trucks, it seems that this problem can be solved.

It is an important question of who should build the stations and who should be their owners. It helps to recall the story of the "Avtogaz" plants. Stations were made for them, and the transporters themselves controlled them. At the same time, they protected themselves from the misfortunes that arise when there is association with another department.

There is a station in L'vov that is capable of filling hundreds of machines with natural gas every year. The automobile fleet of the oblast center that has grown during these years continues to consume many thousands of liters of gasoline. Even the wheeled vehicles of the production association "I'vovgaz" that has the only gas filling station in the city connected to the pipeline, rush up to the gas pumps every day. What can you do? It is known that no one, unfortunately, manufactures trucks to run on methane.

A curious report appeared somehow in the newspapers. In L'vov the specialists of the All-Union Design-Experimental Institute of Bus Construction created a model of an intercity passenger bus with cylinder system for compressed gas. The tests were successful. The technical documents were prepared for series manufacture in the institute. Mass production of these buses could have been the latest word in transportation. I recently found out that this model was considered unpromising. Do you know why? Because on our highways, and many of them run near to natural gas pipelines, there are no stations that supply gas for cars.

Trucks running on gas fuel are undoubtedly economical and deserve all attention. Will they soon become a mass transportation vehicle on the roads and streets of our cities?

9035

CSO: 1822

FUELS

NEW PUBLICATIONS FOR PETROLEUM, GAS INDUSTRY WORKERS LISTED ..

Moscow KNIZHNOYE OBOZRENIYE in Russian 5 Sep 80 p 6

[Article: "For the Extractors of 'Blue Gold'"]

[Text] 7 September is the all-union day of workers of the petroleum and gas industry. The main subjects of the books put out by the publishing house "Nedra" for the workers of the petroleum and gas industry are: geology, search for and exploration of petroleum, gas and gas condensate fields, drilling and timbering of wells, development and operation of petroleum and gas fields, reliability and durability of petroleum and gas field equipment, transportation, storage of petroleum and petroleum products, petroleum supply, work safety, accident prevention and safe working methods, economics, control, organization and planning of production.

This year the following new works came out and are being issued:

"Geologiya nefti i gaza Sibirskoy platformy", [Geology of Petroleum and Gas of the Siberian Platform] (edited by A. Kontorovich, V. Surkov and A. Trofimuk). For the first time in Soviet geological literature, the book makes a successive examination from single viewpoints of the stratigraphy, tectonics, paleogeography, geochemistry and hydrogeology of the Siberian platform. It describes the petroleum and gas fields, isolates and characterizes the regional petroleum and gas reservoirs. It analyzes the laws governing the arrangement of the fields and reconstructs their history.

Orlov, A. and Karyagin, I. "Sovershenstvovaniye organizatsii proizvodstva burovyykh rabot v Zapadnoy Sibiri" [Perfection of the Production Organization of Drilling Operations in West Siberia]. The subject of the book is the development of drilling operations in this region. It analyzes the production organization in drilling, as well as the technical and economic indicators for work to build wells at different stages of setting up and developing drilling in West Siberia.

"Buril'nyye truby iz alyuminiyevykh splavov" [Drilling Pipes Made of Aluminum Alloys]. Collective authors: Shtamburg, V. et al. This is a complex work on low-alloy drilling pipes and their use in different regions of the country. It is issued for the first time.

Maslennikov, I.; and Matveyev, O. "Burovoy instrument" [Drilling Tools]. This is a reference manual. It presents a sequential classification of the tools used in drilling petroleum, gas, exploratory and structural wells.

Amelin, I. "Vnutriplastovoye goreniye" [Intrabed Combustion]. This book presents the theoretical principles for intrabed combustion. It generalizes the experience of using this combustion to increase the oil output. It gives the characteristics of the process and its modifications.

Margulov, R.; Tagiyev, V.; and Gergedava, Sh. "Organizatsiya upravleniya gazodobyayushchim predpriyatiyem" [Organization of Control over the Gas Extracting Enterprise]. This book shows the ways to perfect the control structure of the gas extracting administration, based on extensive use of resources and systems of automation and tele-automation.

Volkov, A. "Resheniye prakticheskikh zadach geologii na EVM" [Solution to Practical Problems of Geology on Computers]. This book presents the methods and results of solving problems of correlating well sections, constructing and analyzing maps in isolines, predicting the petroleum and gas content of traps, and a technique for optimal arrangement of the exploratory wells. A study of the oil and gas structures of the central Ob' region demonstrated the high efficiency of the presented methods that are clearly oriented on optimizing the geological exploration process.

Verevkin, S.; Rzhavskiy, Ye.; and Fokin, M. "Povysheniye nadezhnosti rezervuarov, gazgol'derov i ikh oborudovaniya" [Increase in Reliability of Reservoirs, Gas Holders and Their Equipment]. It is shown on the basis of construction standards and regulations how high quality, reliability and durability of structures should be guaranteed.

Gayev, A. "Podzemnyye zakhoroneniye stochnykh vod v gazovoy promyshlennosti" [Underground Burial of Waste Water in the Gas Industry] (Leningrad division). The book covers underground burial of waste water. This is a method that is presently acknowledged at the gas industry enterprises to be one of the most effective for protecting the environment from pollution.

"Ekonomicheskaya effektivnost' geologorazvedochnykh rabot na neft' i gaz v SSSR" [Economic Effectiveness of Geological Exploration for Petroleum and Gas in the USSR]. Collective authors: Buyalov, N. et al. The book generalizes the results of many years of research. It indicates specific ways to improve the effectiveness of search and exploration work based on the outlook for petroleum and gas content of individual territories in the country with economically substantiated calculations.

New technical solutions are reflected in the following books:

Teterev, I.; Sheshukov, N.; and Nanivskiy, Ye. "Upravleniye protsessami dobychi gaza" [Control of the Gas Extraction Processes].

Aleksandrov, A. "Avtomatizirovannoye upravleniye yedinoi sistemoy gazosnabzheniya" [Automated Control of a Unified Gas Supply System].

"Organizatsiya stroitel'stva magistral'nykh truboprovodov" [Organization of Construction of Main Pipelines]. Collective authors: Batalin, Yu. et al.

**END OF
FICHE
DATE FILMED**

4-2-81
